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jc780 U.S. PTO

09540139 .033100

Please type a plus sign (+) inside this box → ☐ +

PTO/SB/05 (4/98)
Approved for use through 09/30/2000. OMB 0651-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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UTILITY PATENT APPLICATION TRANSMITTAL

*Only for new nonprovisional applications under 37 C.F.R. § 1.53(b)

Attorney Docket No.	AMC1151-002D
First Inventor or Application Identifier	Joseph
Title	SYSTEM FOR EVALUATING TREATMENT OF CHEST PAIN PATIENTS
Express Mail Label No.	EL039916005US

jc678 U.S. PTO
09/540139
03/31/00

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO:
Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. ☒ • Fee Transmittal Form (e.g., PTO/SB/17)
   (Submit an original and a duplicate for fee processing)
2. ☒ Specification [Total Pages 13]
   (preferred arrangement set forth below)
   - Descriptive title of the Invention
   - Cross References to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to Microfiche Appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings (if filed)
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
3. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 41]
4. Oath or Declaration [Total Pages 2]
   - a. ☐ Newly executed (original or copy)
   - b ☒ Copy from a prior application (37 C.F.R. § 1.63(d)) (for continuation/divisional with Box 16 completed)
     - i ☐ DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

* NOTE FOR ITEMS 1& 13 IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 CFR, § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

5 ☐ Microfiche Computer Program (Appendix)
6. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
   - a. ☐ Computer Readable Copy
   - b ☐ Paper Copy (identical to computer copy)
   - c. ☐ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

7. ☐ Assignment Papers (cover sheet & document(s))
8. ☐ 37 C.F.R.§3.73(b) Statement (when there is an assignee) ☐ Power of Attorney
9. ☐ English Translation Document (if applicable)
10. ☒ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
11. ☐ Preliminary Amendment
12. ☒ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
13. ☒ • Small Entity Statement(s) (PTO/SB/09-12) ☒ Statement filed in prior application, Status still proper and desired
14 ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
15. ☐ Other:

16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No 08/874,060

Prior application information: Examiner R. Carter Group/Art Unit 3736

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label (Insert Customer No or Attach bar code label here): or ☒ Correspondence address below

Name	Jeffrey S. Standley				
Address	495 Metro Place South Suite 210				
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Country	USA	Telephone	614-792-5555	Fax	614-792-5536

Name (Print/type)	JEFFREY S. STANDLEY	Registration No (Attorney/Agent)	34,021
Signature		Date	3-31-00

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231

Applicant: Dr. Anthony Joseph
Attorney's Docket No.: 1151-002
Serial No.: 08/563,642
Filed: November 28, 1995
For: SYSTEM FOR EVALUATING TREATMENT OF CHEST PAIN PATIENTS

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.27(A)) - INDIVIDUAL

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled SYSTEM FOR EVALUATING TREATMENT OF CHEST PAIN PATIENTS by inventor, Dr. Anthony Joseph, described in:

[ ] the specification filed herewith.
[X] application Serial No. 08/563,642 filed November 28, 1995.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME____
ADDRESS______________________________________
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING Dr. Anthony Joseph

ADDRESS OF PERSON SIGNING 5442 Riverside Drive, Dublin, Ohio 43017

SIGNATURE Anthony J. Joseph M.D

DATE 3-5-96

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner of Patents and Trademarks, Washington, D.C. 20231 on

March 8, 1996

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EXPRESS MAIL NO.: EL039916005US DATE OF DEPOSIT: MARCH 31, 2000

APPLICATION FOR UNITED STATES LETTERS PATENT

FOR

SYSTEM FOR EVALUATING TREATMENT OF CHEST PAIN PATIENTS

09540139.033100

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SYSTEM FOR EVALUATING TREATMENT OF CHEST PAIN PATIENTS

Inventor: Dr. Anthony Joseph

This application is a continuation of U.S. Patent Application Serial No. 08/874,060 filed on June 12, 1997, which was a file wrapper continuation of U.S. Patent Application Serial No. 08/563,642 filed on November 28, 1995, both of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

This invention relates generally to a data processing system and method for evaluating medical treatment. More particularly it relates to a data processing system and method for evaluating treatment of chest pain patients.

Coronary heart disease is the number one killer of Americans. It accounts for nearly twenty percent of the national health care budget. The chief complaint of between five and eight percent of the patients seen in emergency departments in 1994 was chest pain. However, only a small percentage of patients experiencing chest pain have acute myocardial infarction (AMI) or a significant risk of AMI.

Traditionally, most patients who complained of chest pain were admitted to hospitals for evaluation until a determination could be made concerning whether the patient had AMI or was at significant risk of AMI. Inpatient evaluation of chest pain is very expensive. In response to the high cost of inpatient evaluation, many hospitals have developed alternatives to inpatient evaluation.

The Emergency Chest Pain Unit was originally designed as a way to prevent primary ventricular fibrillation. It usually falls within the province of the Emergency

Department. Today, it is charged with responsibility for early recognition and treatment of patients with AMI. Another alternative is the Observation Unit. It is distinct from the Emergency Chest Pain Unit. The primary function of the Observation Unit is the early diagnosis and risk stratification of patients with underlying occult coronary artery disease. The use of alternatives such as these reduces the cost of treating chest pain, while allowing the proper diagnosis and treatment to occur. Hospitals need a way to evaluate the performance of these alternatives to inpatient care and to compare the performance of inpatient treatment with emergency department treatment and treatment in an observation unit.

Rapid identification and treatment of patients with AMI is critical to their survival. Early intervention dramatically improves outcomes no matter what reperfusion strategy is used.

The standardization of the evaluation and treatment of patients complaining of chest pain is an important part of improving care. The National Heart Attack Alert Program Committee, the American Heart Association, and the American College of Cardiology have made specific recommendations that result in improved outcomes. For example, a goal of thirty minutes from entry into the emergency department to treatment with thrombolytic therapy has been established by the National Heart Attack Alert Program Committee. In order to evaluate the effectiveness of these recommendations, it is important to be able to document and measure the performance of the recommendation accurately. Currently, there is no way to measure this performance objectively.

Since rapid diagnosis and treatment of AMI are critical to patient survival, hospitals must be able to evaluate the performance of medical care providers objectively.

Adherence to treatment protocols is an important factor in this evaluation. However, there is no objective way to measure adherence currently.

In addition, failure to diagnose heart attack is the number one malpractice problem in Emergency Medicine today, accounting for almost twenty percent of all malpractice dollars paid out. Emergency chest pain evaluation is a high volume, high risk arena. An organized system-wide approach to the diagnosis of heart attack can be viewed as a risk management tool.

Therefore, it would be desirable to have a way to evaluate objectively the performance of treatment protocols and the adherence of medical care providers to the treatment protocols in the treatment of chest pain.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a flow chart for part of a data verification procedure relating to patient arrival to ensure the validity of the patient treatment information.

Fig. 2 is a flow chart for part of a data verification procedure relating to patient symptoms to ensure the validity of the patient treatment information.

Fig. 3 is a flow chart for part of a data verification procedure relating to the date and timing of testing to ensure the validity of the patient treatment information.

Fig. 3A is a flow chart for part of a data verification procedure relating to the date and timing of testing to ensure the validity of the patient treatment information.

Fig. 4 is a flow chart for part of a data verification procedure relating to the date and timing of testing to ensure the validity of the patient treatment information.

Fig. 5 is a flow chart for part of a data verification procedure relating to the timing and type of treatment to ensure the validity of the patient treatment information.

Fig. 6 is a flow chart for part of a data verification procedure relating to the time of disposition from the emergency department to ensure the validity of the patient treatment information.

Fig. 7A is a flow chart for part of a data verification procedure relating to the final emergency department diagnosis to ensure the validity of the patient treatment information.

Fig. 7B is a flow chart for part of a data verification procedure relating to the final emergency department diagnosis to ensure the validity of the patient treatment information.

Fig. 8A is a flow chart for part of a data verification procedure relating to the final hospital discharge diagnosis to ensure the validity of the patient treatment information.

Fig. 8B is a flow chart for part of a data verification procedure relating to the final hospital discharge diagnosis to ensure the validity of the patient treatment information.

Fig. 8C is a flow chart for part of a data verification procedure relating to the final hospital discharge diagnosis to ensure the validity of the patient treatment information.

Fig. 9A is a flow chart for part of a data verification procedure relating to the patient's primary care physician to ensure the validity of the patient treatment information.

Fig. 9B is a flow chart for part of a data verification procedure relating to the patient's cardiologist to ensure the validity of the patient treatment information.

Fig. 9C is a flow chart for part of a data verification procedure relating to when the patient did not have a physician to ensure the validity of the patient treatment information.

Fig. 10A is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 10B is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 10C is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 10D is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 11A is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 11B is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 11C is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 11D is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 11E is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 12A is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 12B is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 12C is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 12D is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 12E is a flow chart for part of a data verification procedure relating to treatment given to the patient to ensure the validity of the patient treatment information.

Fig. 13 is part of a flow chart for a preferred format for the relational database for the patient treatment information.

Fig. 14 is part of a flow chart for a preferred format for the relational database for the patient treatment information.

Fig. 15 is part of a flow chart for a preferred format for the relational database for the patient treatment information.

Fig. 16 is part of a flow chart for a preferred format for the relational database for the patient treatment information.

Figs. 17A - M show typical user data entry formats of one preferred embodiment of the system of the present invention.

DESCRIPTION OF THE INVENTION

The present invention is a data processing system for evaluating treatment of chest pain patients in a medical facility. The system comprises means for entering patient treatment information, means for storing the patient treatment information, means for retrieving the patient treatment information, means for comparing the patient treatment information to predetermined values, and means for reporting the comparison of the patient treatment information to the predetermined values, so that the medical facility is able to improve its treatment of chest pain patients. In addition, the system comprises means for identifying the need to provide additional training for a medical care giver or a medical facility, and means for allocating staff resources in a medical facility.

A data processing method for evaluating treatment of chest pain patients in a medical facility is also disclosed. The method comprises entering patient treatment information, storing the patient treatment information, retrieving the patient treatment information, comparing the patient treatment information to predetermined values, and reporting the comparison of the patient treatment information to the predetermined values so that the medical facility is able to improve its treatment of chest pain patients. The reported comparisons can be used to evaluate a treatment protocol, a medical care provider, or a medical facility. They can also be used to identify the need to provide additional training for a medical care provider, or a medical facility. In addition, they can be used to allocate staff resources in a medical facility.

The data processing system for evaluating treatment of chest pain patients in a medical facility of the present invention can comprise a single personal computer, a

network of personal computers connected together, or a central computer connected to a network of data entry terminals.

Information concerning patient treatment is entered into the system. Information can be entered using a keyboard or a non-keyboard method of data entry. The patient treatment information is stored in a relational database. The system processes the information as requested and compares it to predetermined values. The system prepares a report of the comparison of the patient treatment information with the predetermined values. The system uses this reported comparison to evaluate treatment protocols, individual performance of medical care providers, and overall performance of the medical facility.

The database can be created using any commercial database program, such as ACCESS® by Microsoft. Figs. 1 to 12 describe a data verification procedure to ensure the validity of the patient treatment information which is to be entered. Figs. 13 to 16 describe a preferred format for a relational database for the patient treatment information. Figs. 17A to 17M show typical user data entry formats of one preferred embodiment of the system of the present invention.

Patient treatment information includes data concerning the particular patient, such as name, age, doctor, cardiologist, symptoms, and time of onset of symptoms. It can also includes information concerning the testing and treatment received by the patient, such as whether and when an electrocardiogram (EKG) was done, whether and when other tests used to identify AMI were done, and when certain treatment was initiated and completed.

The patient treatment information is compared to certain predetermined values. The predetermined values could be care standards set by a medical group, or they could be values which are based on past experience, such as an average of prior data points.

The standardization of the parameters to be measured allows evaluation of the effectiveness of treatment protocols. It also allows evaluation of the adherence to those protocols of medical care providers, individually and collectively, at a single facility, a group of facilities, regionally, and nationally.

The system and method can evaluate whether a particular patient's treatment fell within recommended guidelines. They can also evaluate the performance of a particular emergency department doctor or nurse over time to determine, for example, whether he/she is meeting recommended guidelines for obtaining an initial EKG, whether other tests for AMI are being performed in a timely fashion, or whether appropriate treatment is being given based upon the test results. They can also evaluate whether a medical facility, such as an observation unit, is meeting these guidelines.

In addition, the system and method can be used to identify whether a particular medical care provider or medical facility is failing to meet guidelines, and therefore needs additional training in treating chest pain patients.

The method can also be used to predict future staffing needs more accurately using documented past experience.

The system and method can be used to evaluate medical care providers including, but not limited to, particular doctors, nurses, or technicians. The types of medical facilities which can be evaluated include, but are not limited to, a hospital, a specific

department within a hospital, a group of hospitals, or some other type of medical facility such as an outpatient clinic.

The system and method can be used to evaluate the performance of payors. With the widespread acceptance of managed care organizations, management of the interface between the payor and the medical care provider has been crucial. In some instances, in order for the medical care provider to meet appropriate benchmarks, the payor must also meet timely deadlines. This system and method can be used to determine if payors are meeting their performance standards.

The system and method can also be used to reduce the cost delivering care. The system links clinical care to the financial cost of care. By having accurate information on patient testing, appropriate testing and the timing of testing can be managed. The result is better care at lower cost.

What is claimed is:

1. A data processing system for evaluating treatment of patients in a medical facility, the system comprising:

means for entering patient treatment information for a plurality of patients;

means for storing the patient treatment information for said plurality of patients;

means for comparing the patient treatment information collectively for said plurality of patients to predetermined values, to evaluate the treatment received by said plurality of patients; and

means for reporting the comparison of the patient treatment information for said plurality of patients to the predetermined values to evaluate the treatment received by said plurality of patients, so that the medical facility is able to improve its treatment of future patients.

2. The data processing system of Claim 1, further comprising means responsive to the reported comparisons for identifying the need to provide additional training for a medical care provider.

3. The data processing system of Claim 1, further comprising means responsive to the reported comparisons for identifying the need to provide additional training for the medical facility.

4. The data processing system of Claim 1, further comprising means responsive to the reported comparisons for allocating staff resources in the medical facility.

5. A data processing method for evaluating treatment of patients in a medical facility, the method comprising:

entering patient treatment information for a plurality of patients;

storing the patient treatment information for said plurality of patients;

comparing the patient treatment information collectively for said plurality of patients to predetermined values to evaluate the treatment received by said plurality of patients; and

reporting the comparison of the patient treatment information for said plurality of patients to the predetermined values, to evaluate the treatment received by said plurality of patients so that the medical facility is able to improve its treatment of future patients.

6. The data processing method of Claim 5, further comprising evaluating the performance of a treatment protocol using the reported comparisons.

7. The data processing method of Claim 5, further comprising evaluating the performance of a medical care provider using the reported comparisons.

8. The data processing method of Claim 5, further comprising identifying the need to provide additional training for a medical care provider using the reported comparisons.

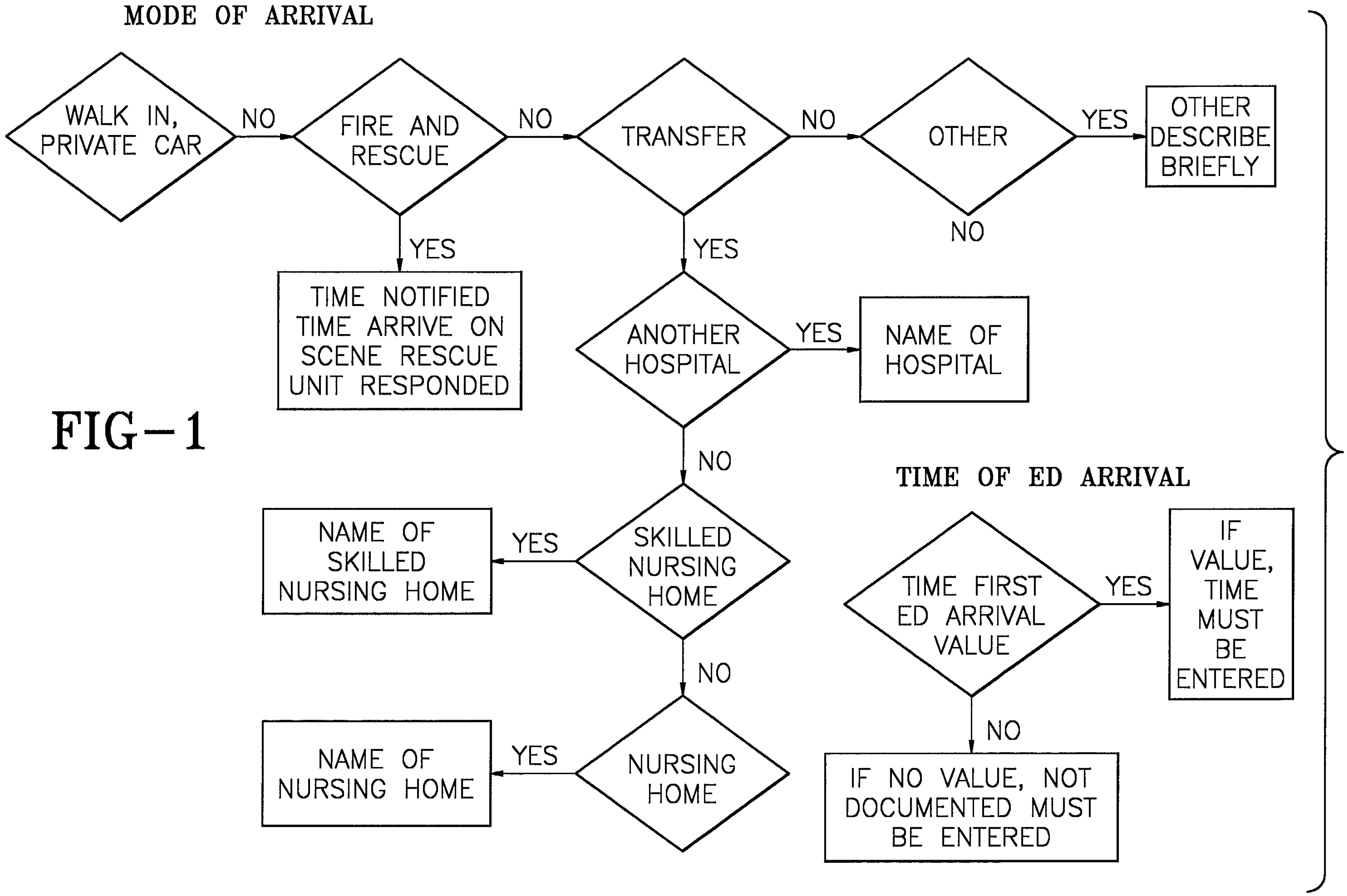
9. The data processing method of Claim 5, further comprising evaluating the performance of the medical facility using the reported comparisons.

10. The data processing method of Claim 5, further comprising identifying the need to provide additional training for the medical facility using the reported comparisons.

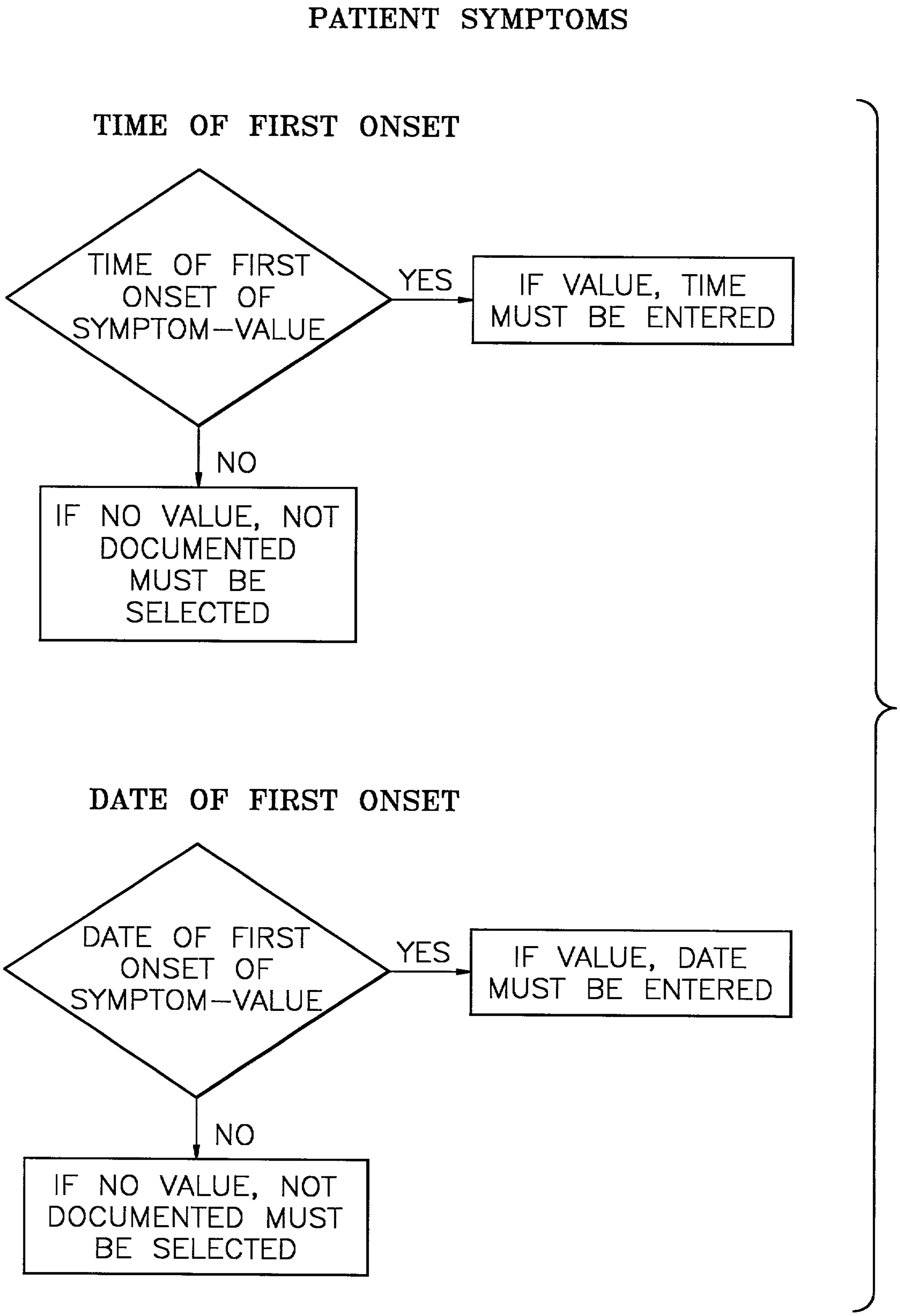
11. The data processing method of Claim 5, further comprising allocating staff resources in the medical facility using the reported comparisons.

ABSTRACT

A data processing system and method for evaluating the treatment of chest pain patients in a medical facility is disclosed. The system comprises means for entering patient treatment information, means for storing the patient treatment information, means for retrieving the patient treatment information, means for comparing the patient treatment information to predetermined values, and means for reporting the comparison of the patient treatment information to the predetermined values, so that the medical facility is able to improve its treatment of chest pain patients.


MODE OF ARRIVAL
WALK IN, PRIVATE CAR
NO
FIRE AND RESCUE
YES
TIME NOTIFIED TIME ARRIVE ON SCENE RESCUE UNIT RESPONDED
NO
TRANSFER
NO
OTHER
YES
OTHER DESCRIBE BRIEFLY
NO
YES
ANOTHER HOSPITAL
YES
NAME OF HOSPITAL
NO
SKILLED NURSING HOME
YES
NAME OF SKILLED NURSING HOME
NO
NURSING HOME
YES
NAME OF NURSING HOME
TIME OF ED ARRIVAL
TIME FIRST ED ARRIVAL VALUE
YES
IF VALUE, TIME MUST BE ENTERED
NO
IF NO VALUE, NOT DOCUMENTED MUST BE ENTERED

FIG—1


PATIENT SYMPTOMS
TIME OF FIRST ONSET
TIME OF FIRST ONSET OF SYMPTOM—VALUE
YES
IF VALUE, TIME MUST BE ENTERED
NO
IF NO VALUE, NOT DOCUMENTED MUST BE SELECTED
DATE OF FIRST ONSET
DATE OF FIRST ONSET OF SYMPTOM—VALUE
YES
IF VALUE, DATE MUST BE ENTERED
NO
IF NO VALUE, NOT DOCUMENTED MUST BE SELECTED

FIG—2

TIME STAMP AND THE PATIENT CARE PROCESS

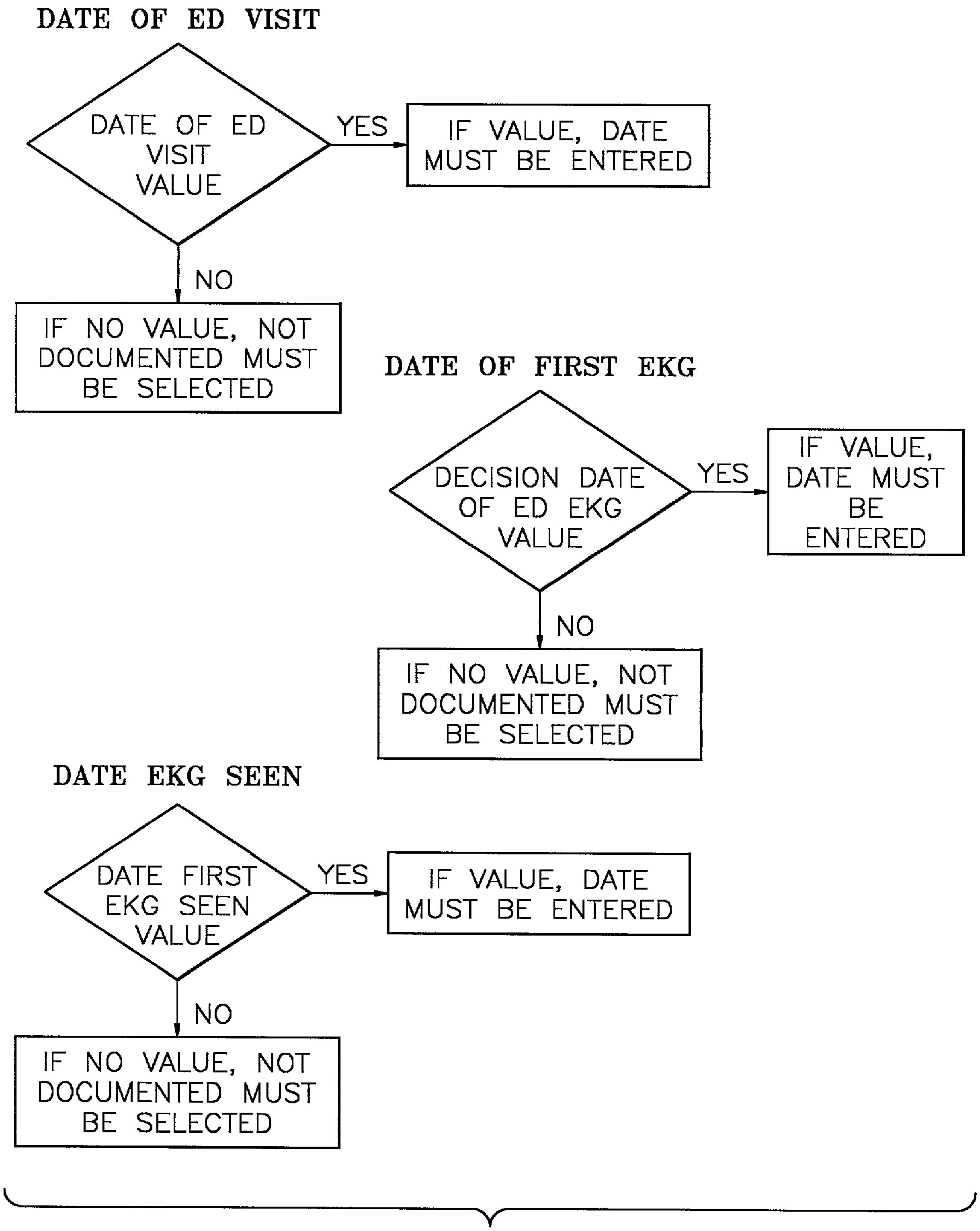
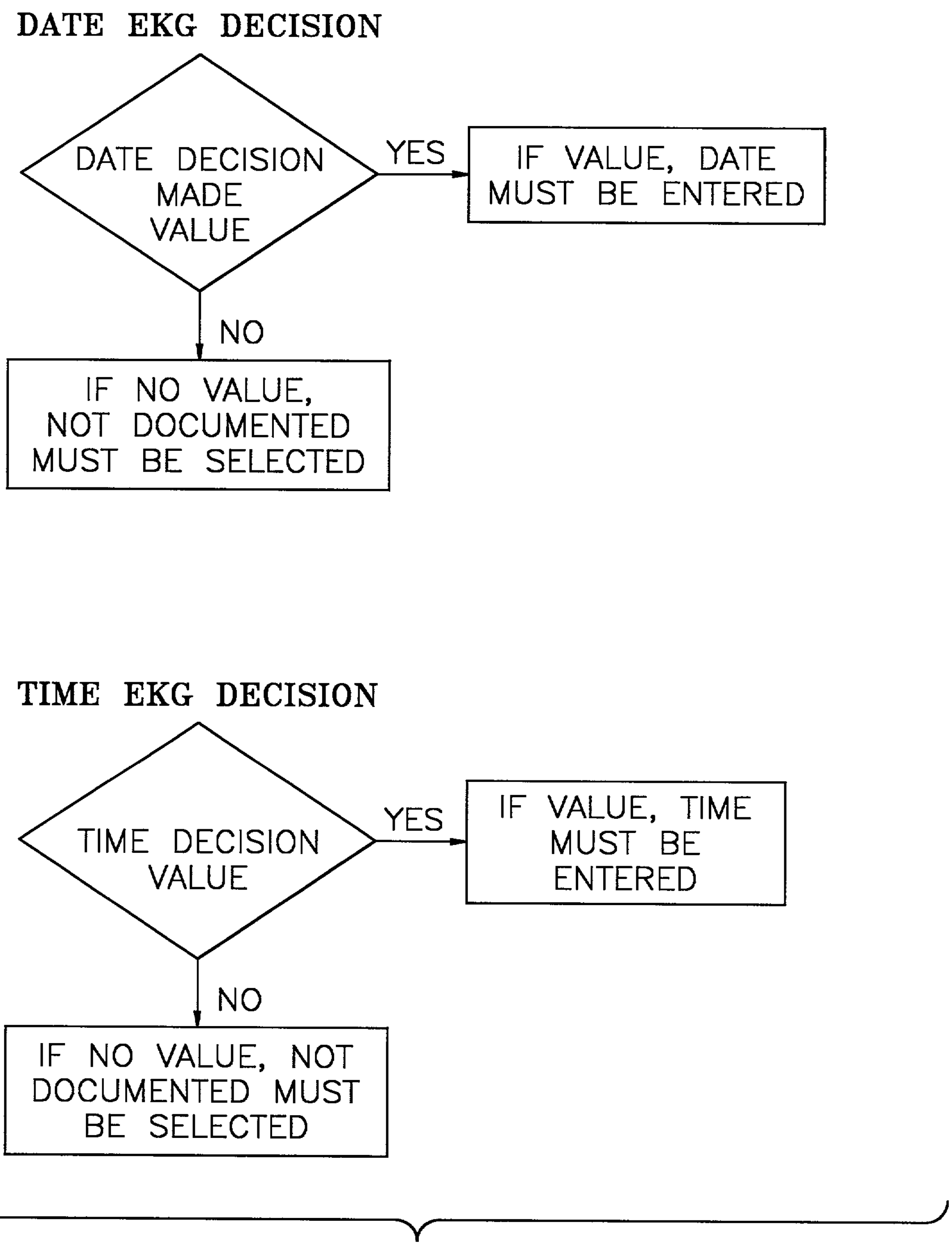
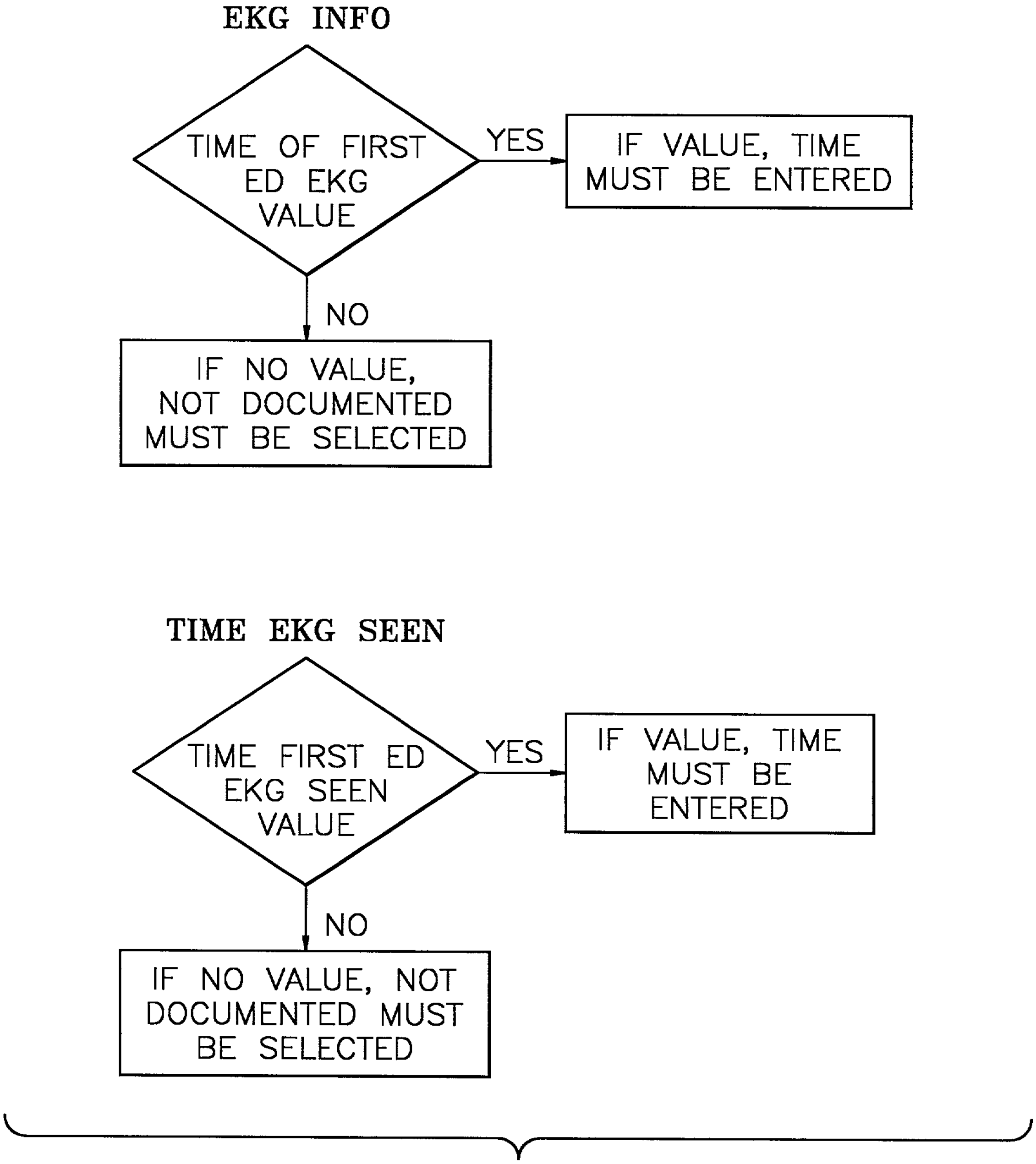


FIG-3



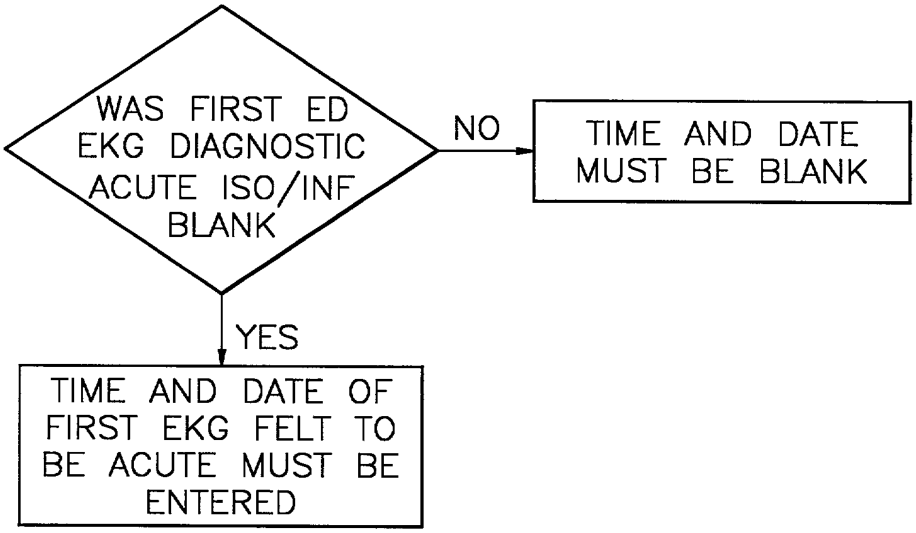
DATE EKG DECISION
DATE DECISION MADE VALUE
YES
IF VALUE, DATE MUST BE ENTERED
NO
IF NO VALUE, NOT DOCUMENTED MUST BE SELECTED
TIME EKG DECISION
TIME DECISION VALUE
YES
IF VALUE, TIME MUST BE ENTERED
NO
IF NO VALUE, NOT DOCUMENTED MUST BE SELECTED

FIG-3A


EKG INFO
TIME OF FIRST ED EKG VALUE
YES
IF VALUE, TIME MUST BE ENTERED
NO
IF NO VALUE, NOT DOCUMENTED MUST BE SELECTED
TIME EKG SEEN
TIME FIRST ED EKG SEEN VALUE
YES
IF VALUE, TIME MUST BE ENTERED
NO
IF NO VALUE, NOT DOCUMENTED MUST BE SELECTED

FIG–3B

DIAGNOSTIC ACUTE ISCHEMIA/INFARCTION



FIG–4

REPERFUSION STRATEGY

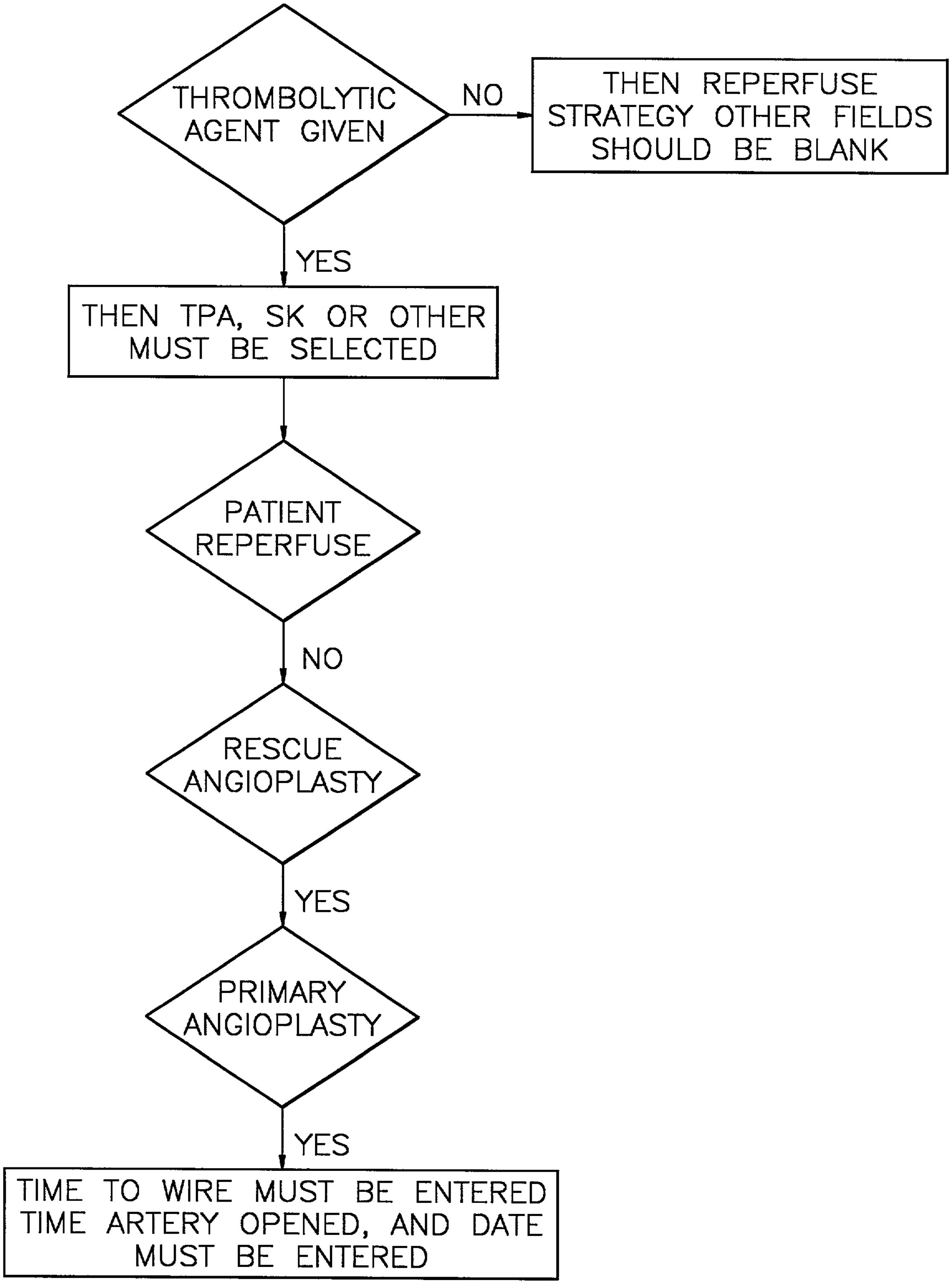


FIG-5

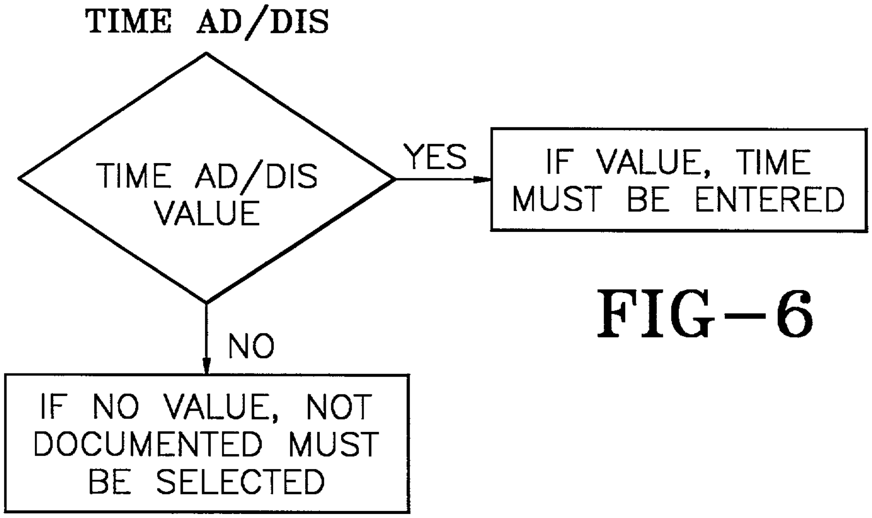


FIG-6

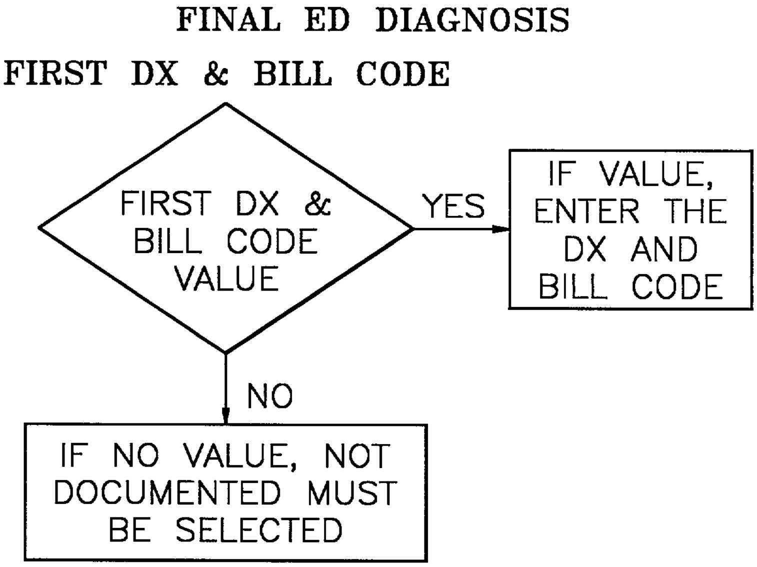


FIG-7A

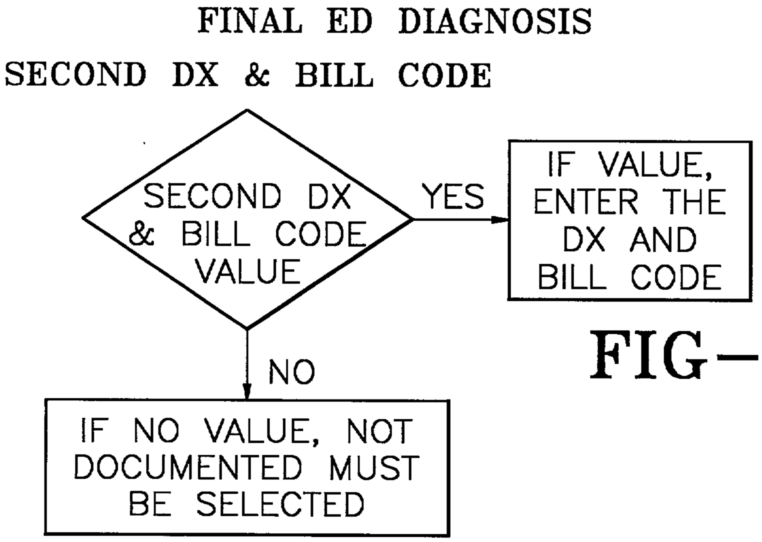
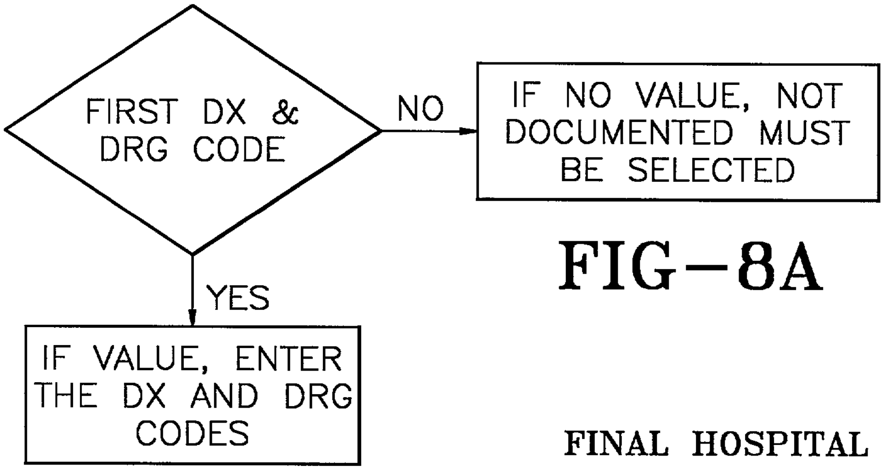


FIG-7B

PATIENT DISPOSITION FROM EMERGENCY

FINAL HOSPITAL DIAGNOSIS

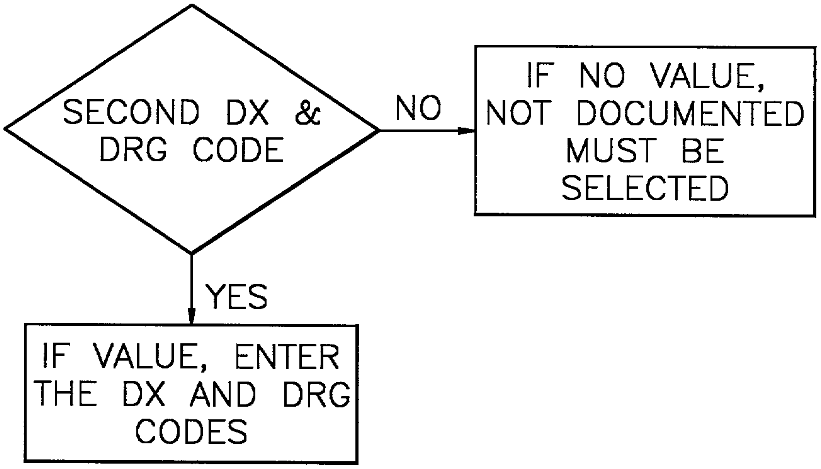
FIRST DX & DRG



FIG–8A

FINAL HOSPITAL DIAGNOSIS

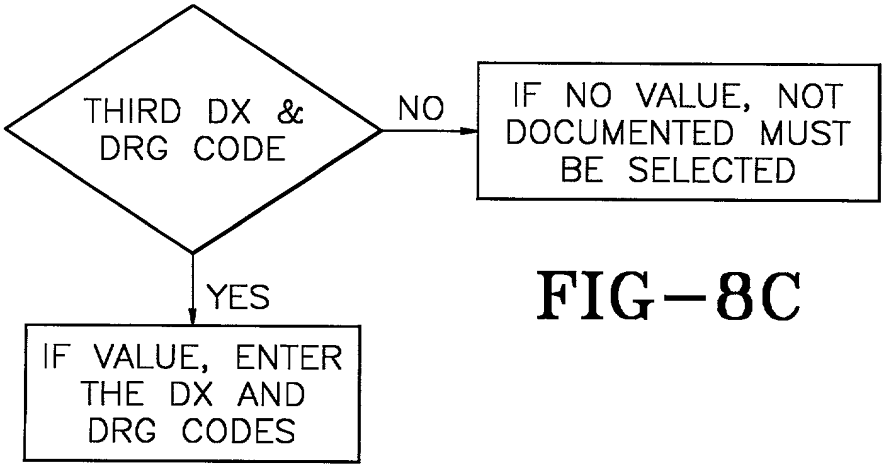
SECOND DX & DRG



FIG–8B

FINAL HOSPITAL DIAGNOSIS

THIRD DX & DRG



FIG–8C

PRIMARY CARE PHYSICIAN (PCP)

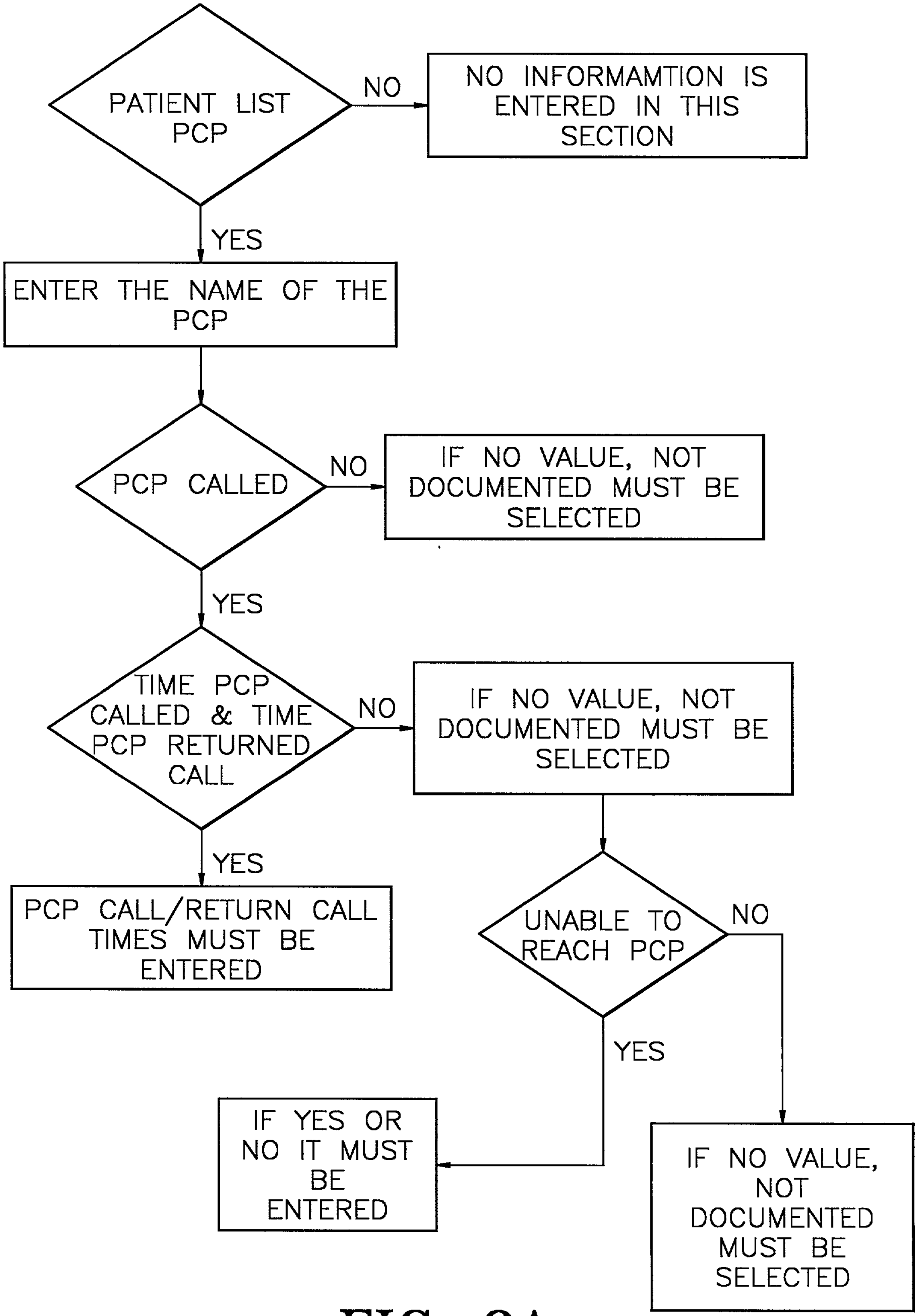


FIG-9A

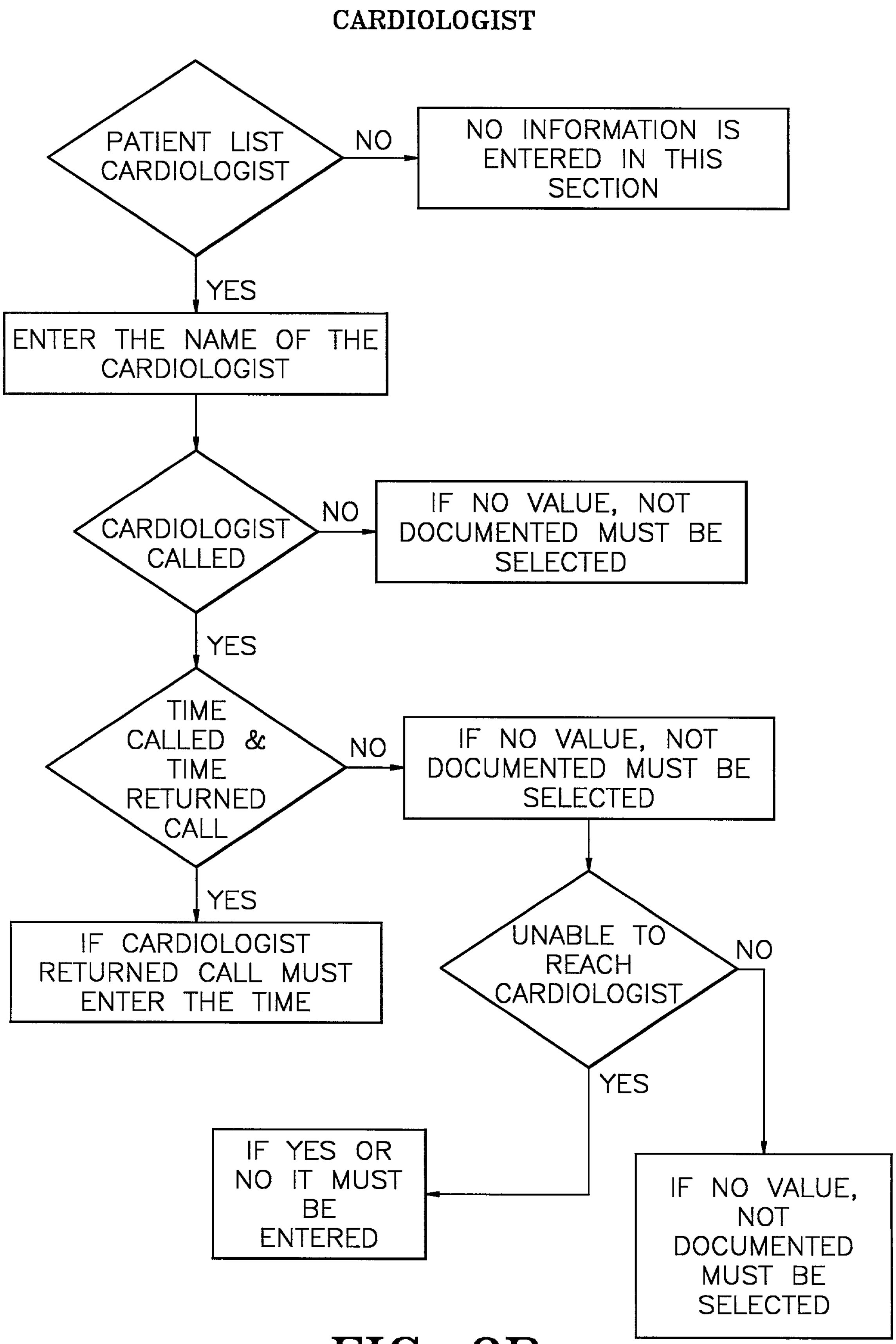

CARDIOLOGIST
PATIENT LIST CARDIOLOGIST
NO
NO INFORMATION IS ENTERED IN THIS SECTION
YES
ENTER THE NAME OF THE CARDIOLOGIST
CARDIOLOGIST CALLED
NO
IF NO VALUE, NOT DOCUMENTED MUST BE SELECTED
YES
TIME CALLED & TIME RETURNED CALL
NO
IF NO VALUE, NOT DOCUMENTED MUST BE SELECTED
YES
IF CARDIOLOGIST RETURNED CALL MUST ENTER THE TIME
UNABLE TO REACH CARDIOLOGIST
NO
YES
IF YES OR NO IT MUST BE ENTERED
IF NO VALUE, NOT DOCUMENTED MUST BE SELECTED

FIG-9B

NO PHYSICIAN LISTED

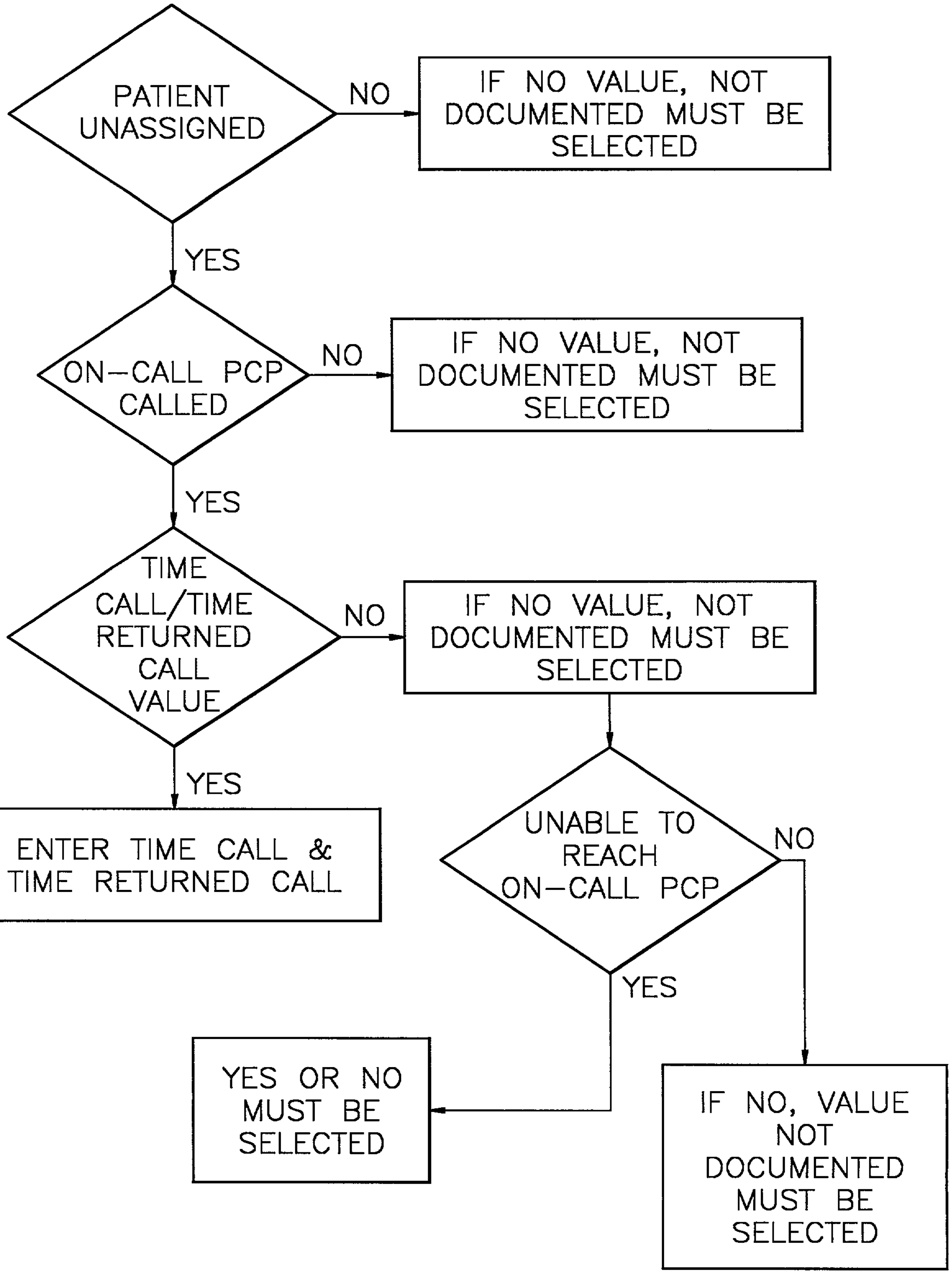


FIG-9C

CARDIO BIOMAKERS

MYOGLOBIN TESTING

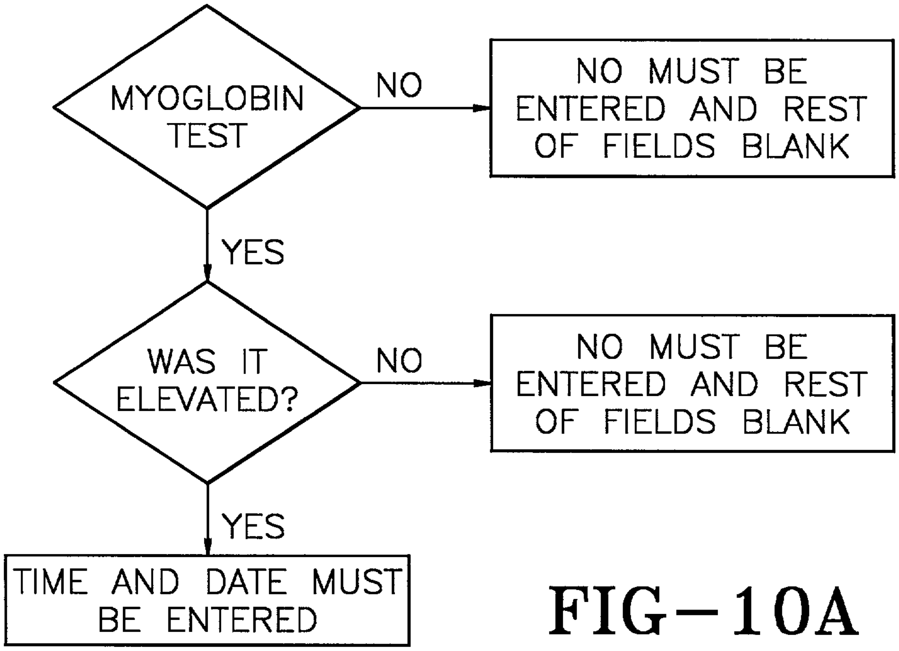


FIG-10A

CREATINE MB(CK-MB) TEST

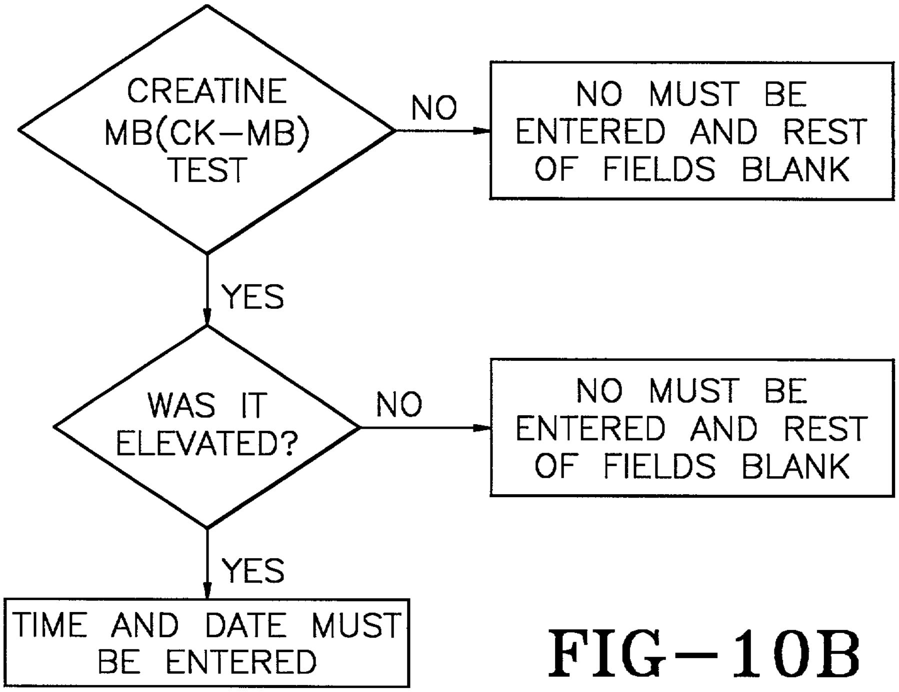


FIG-10B

CARDIO BIOMAKERS

CREATINE (CPK OR CK)

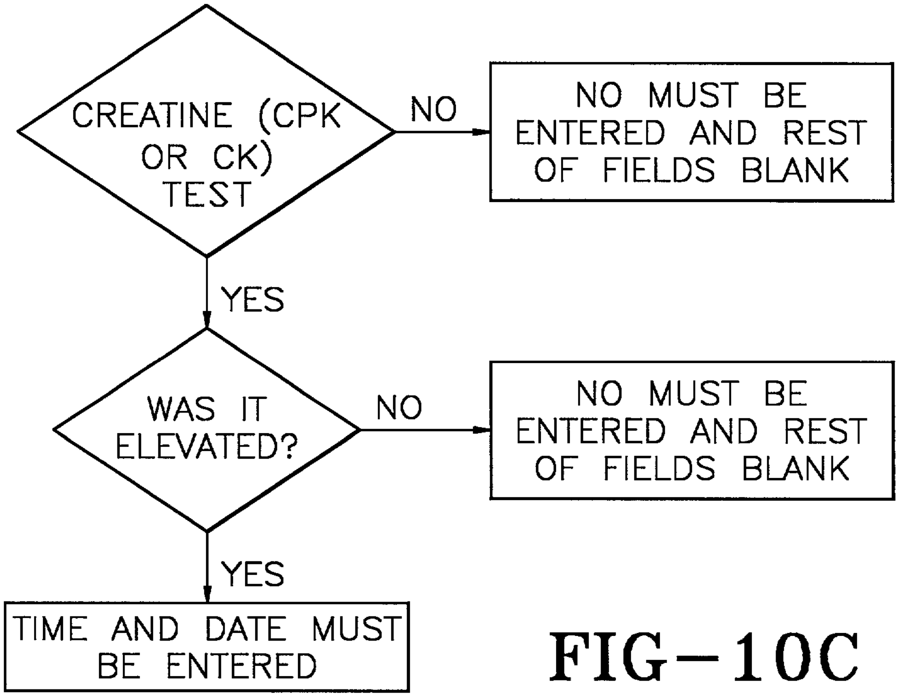


FIG-10C

TROPONIN TESTING

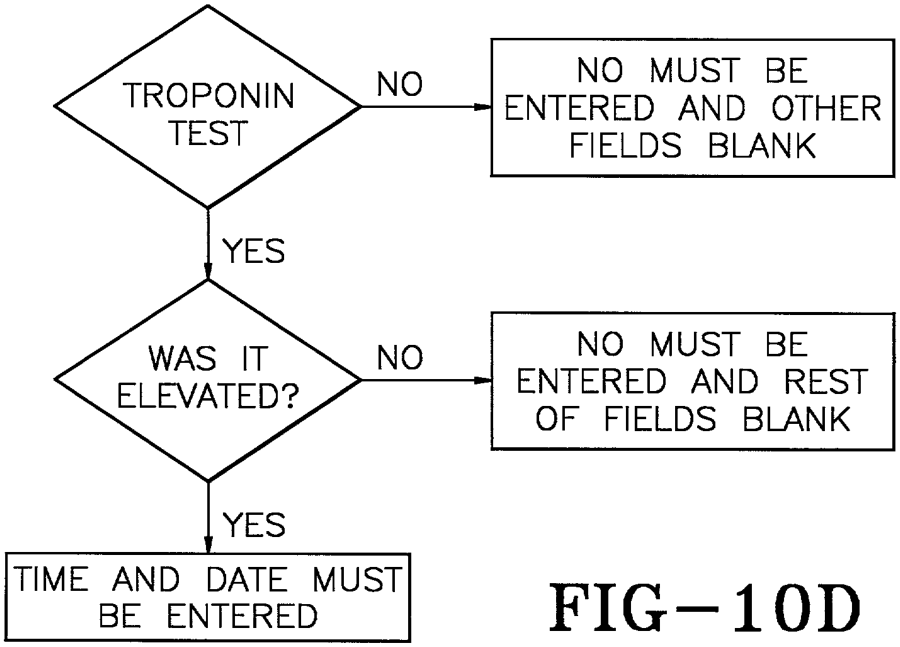
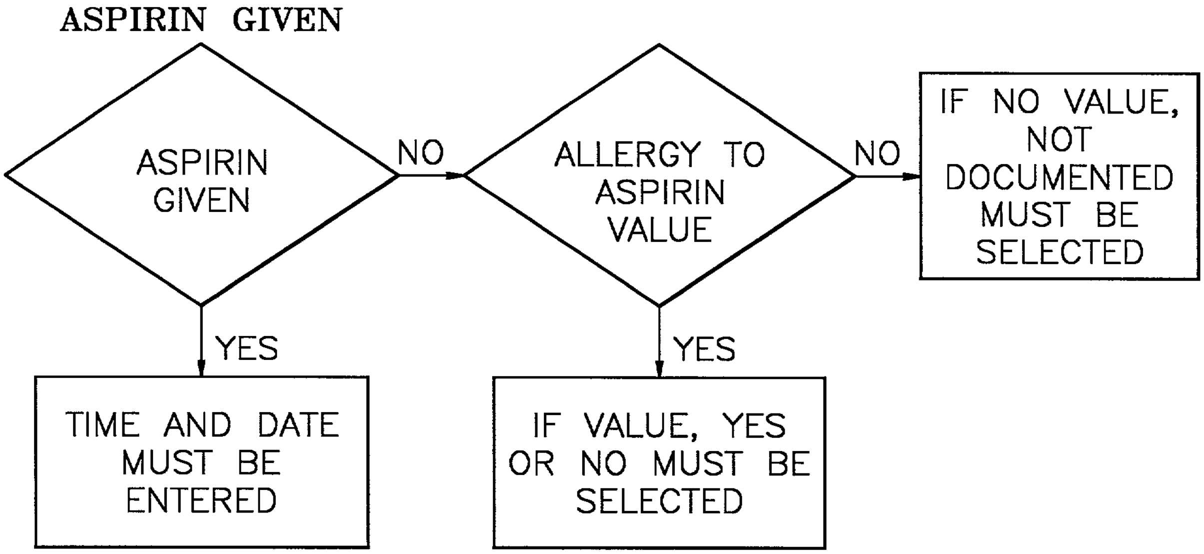
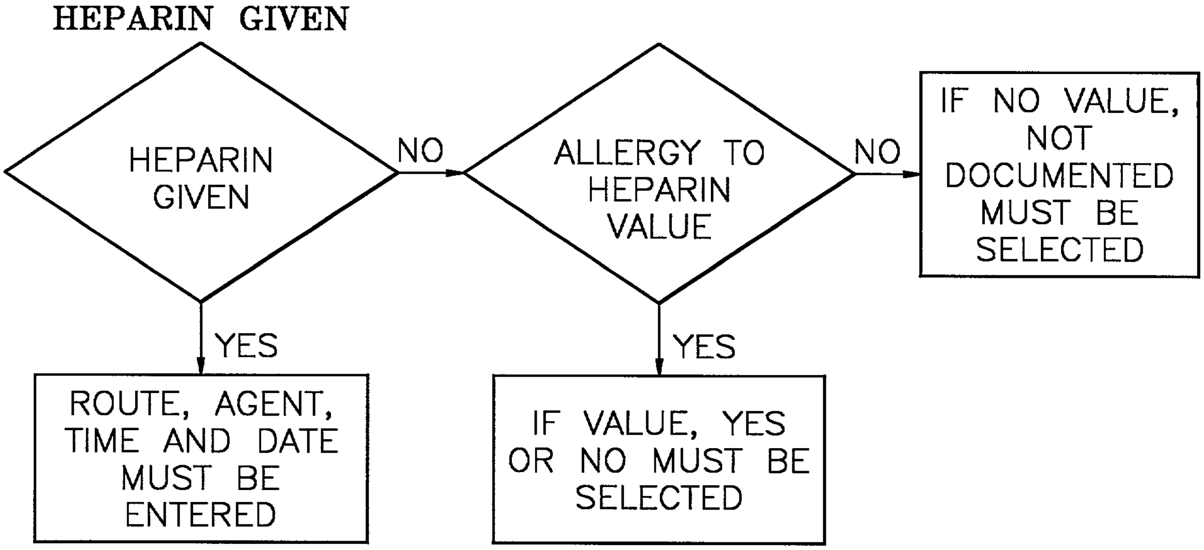


FIG-10D



FIG—11A



FIG—11B

BETA BLOCKER GIVEN

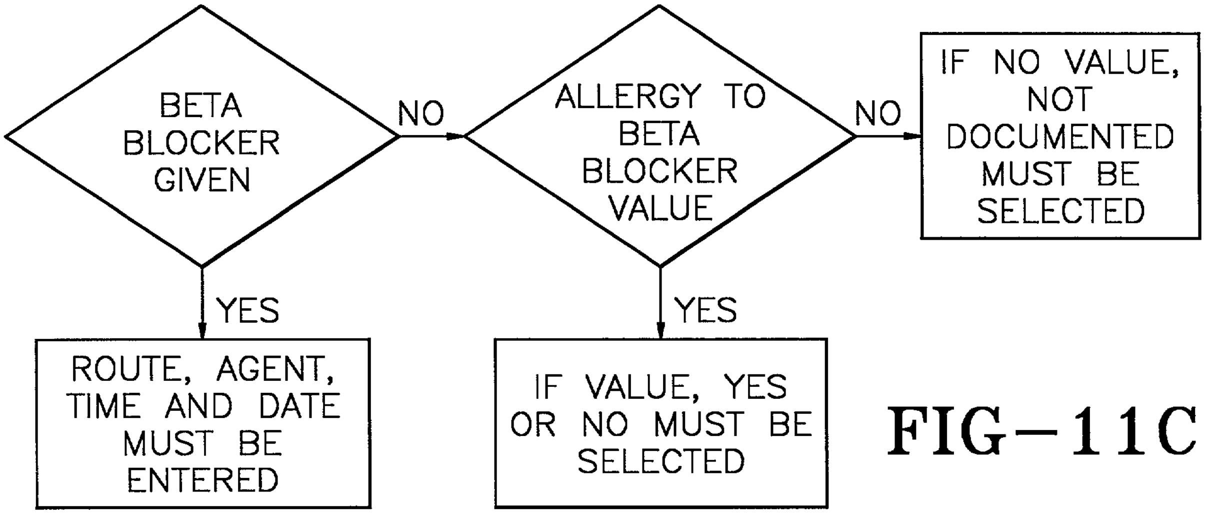


FIG-11C

CALCIUM CHANNEL BLOCKER GIVEN

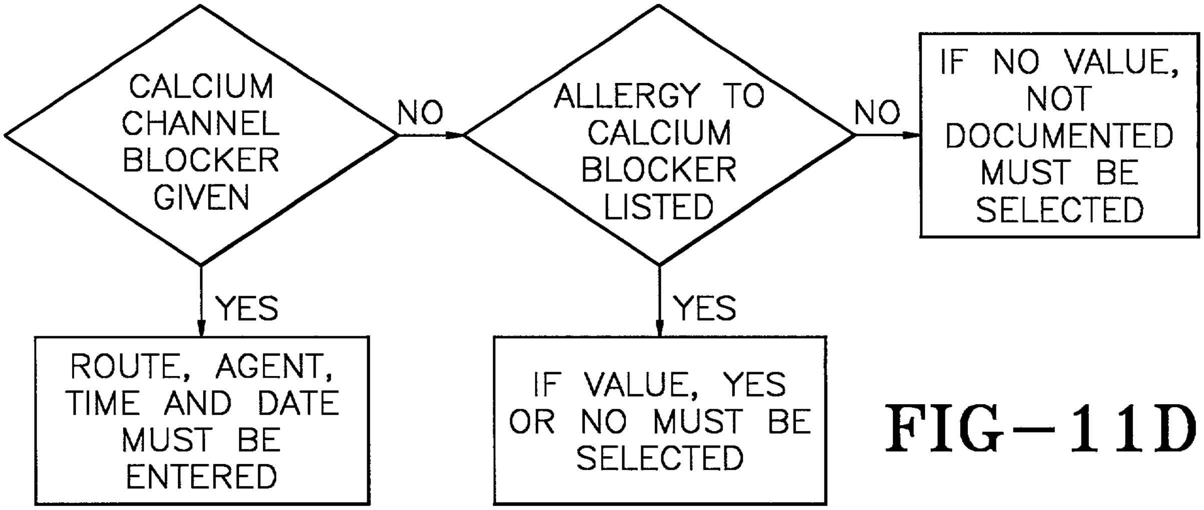


FIG-11D

NITRATES GIVEN

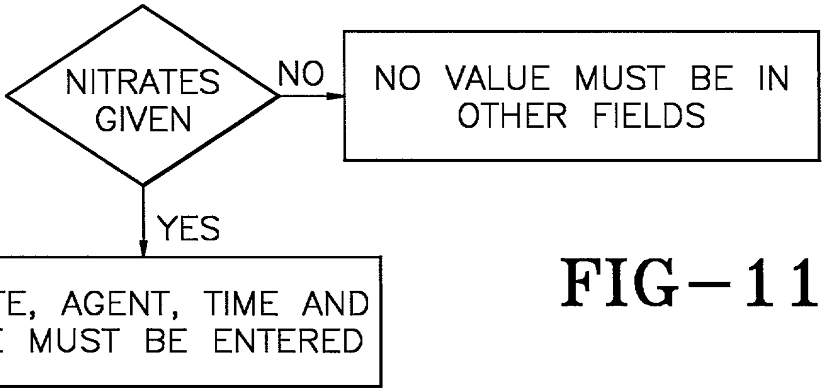


FIG-11E

OTHER TESTING

STRESS TEST

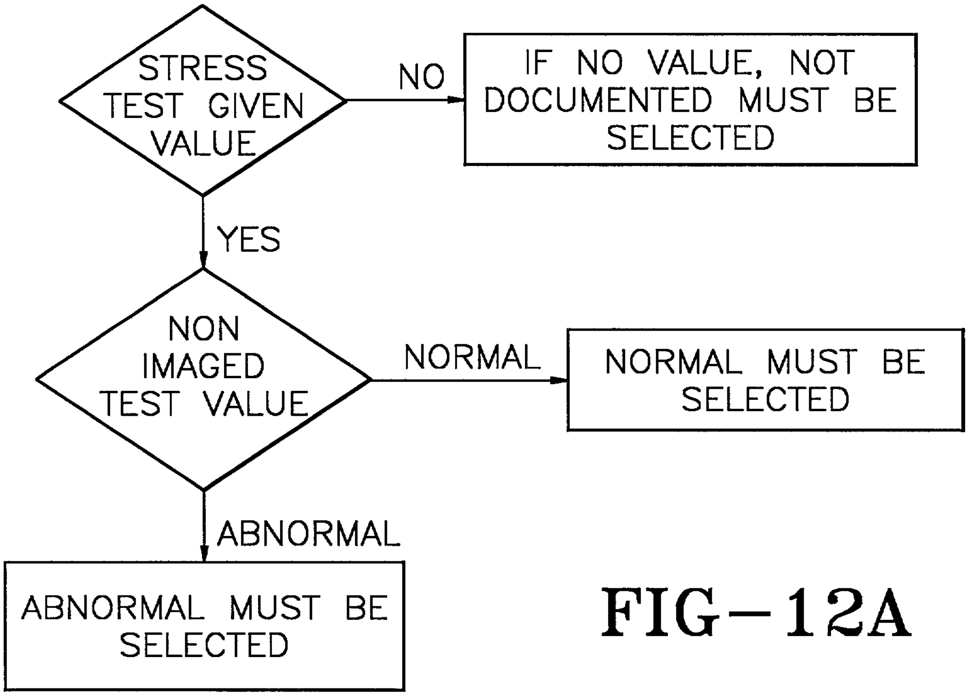


FIG-12A

NUCLEAR IMAGED STRESS

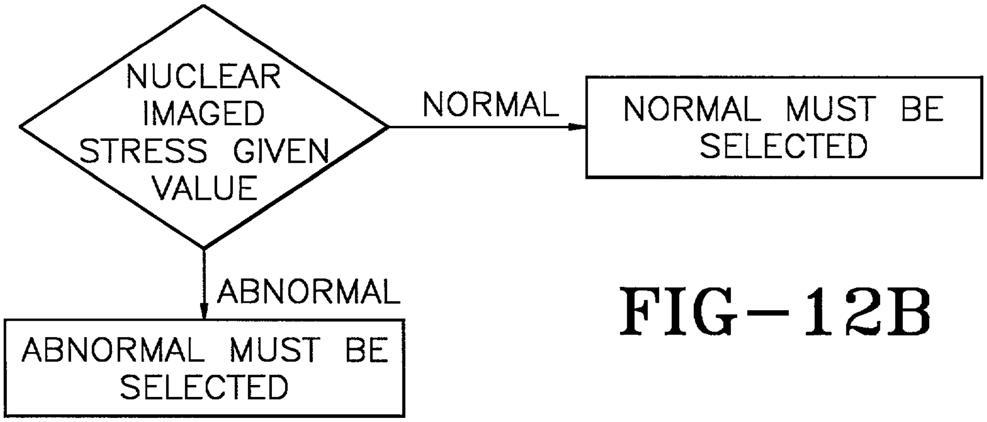


FIG-12B

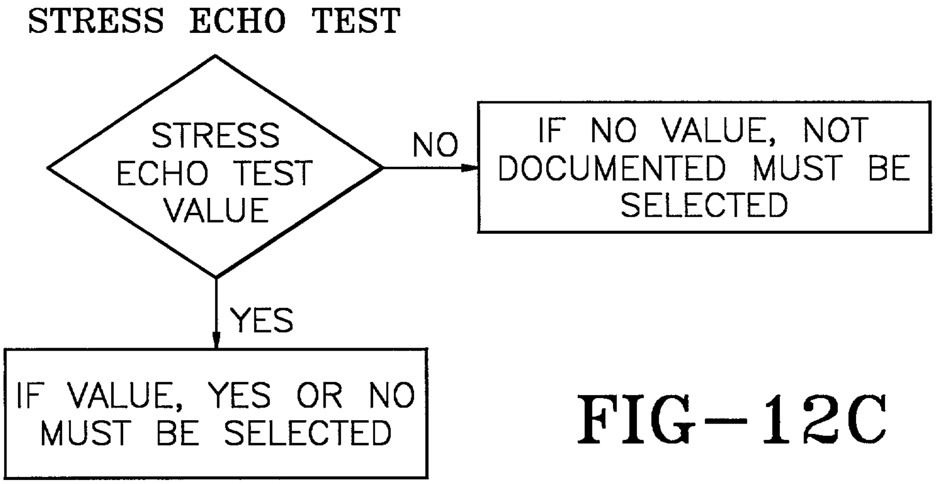


FIG-12C

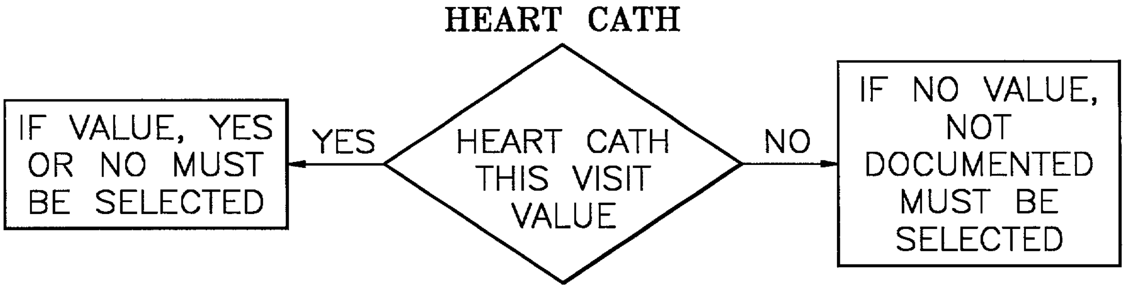


FIG-12D

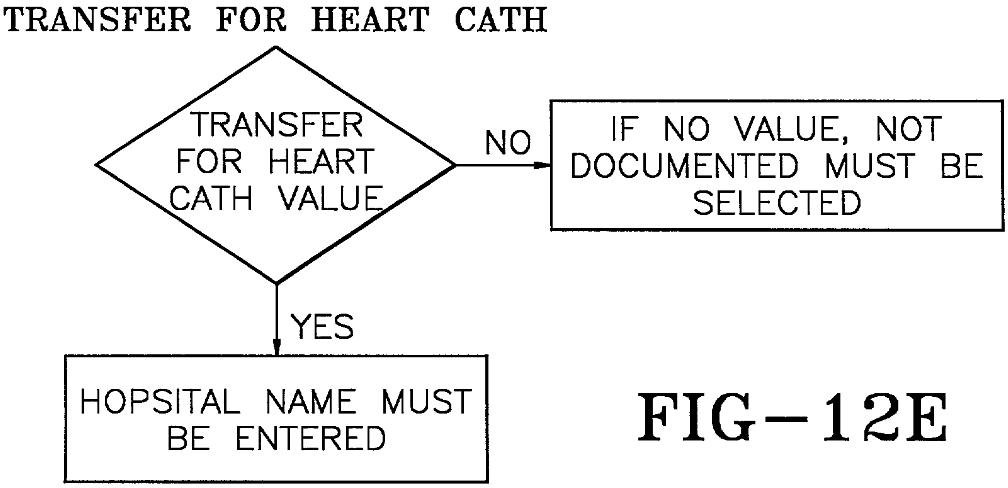
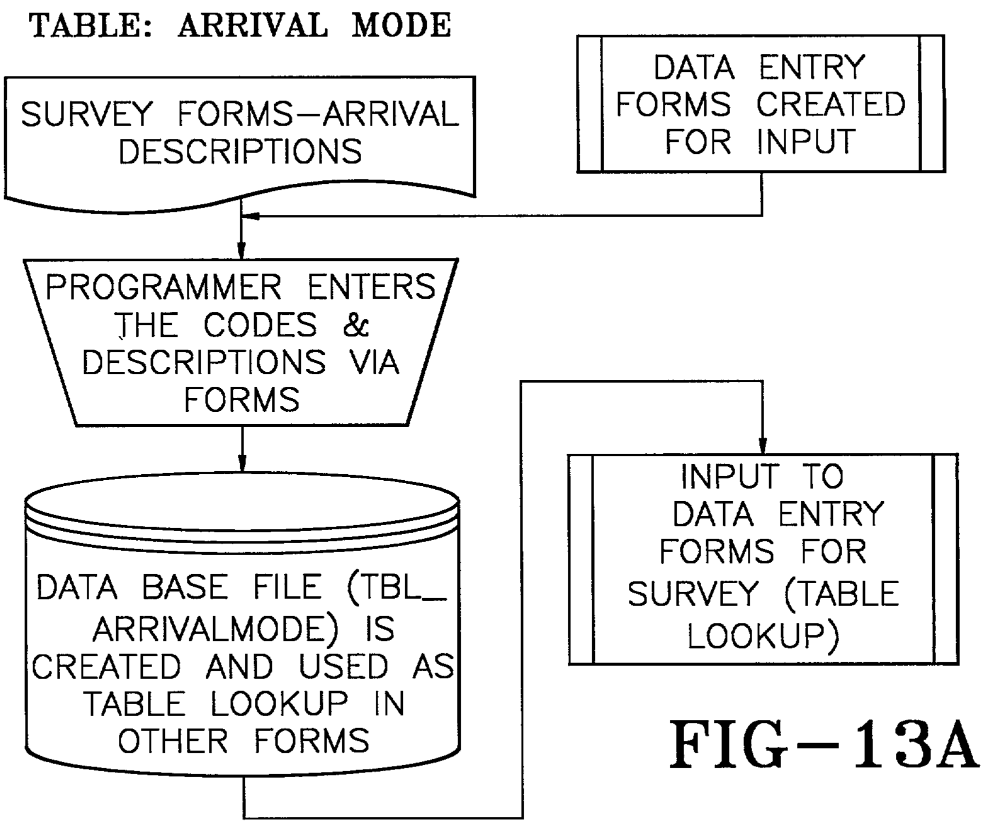
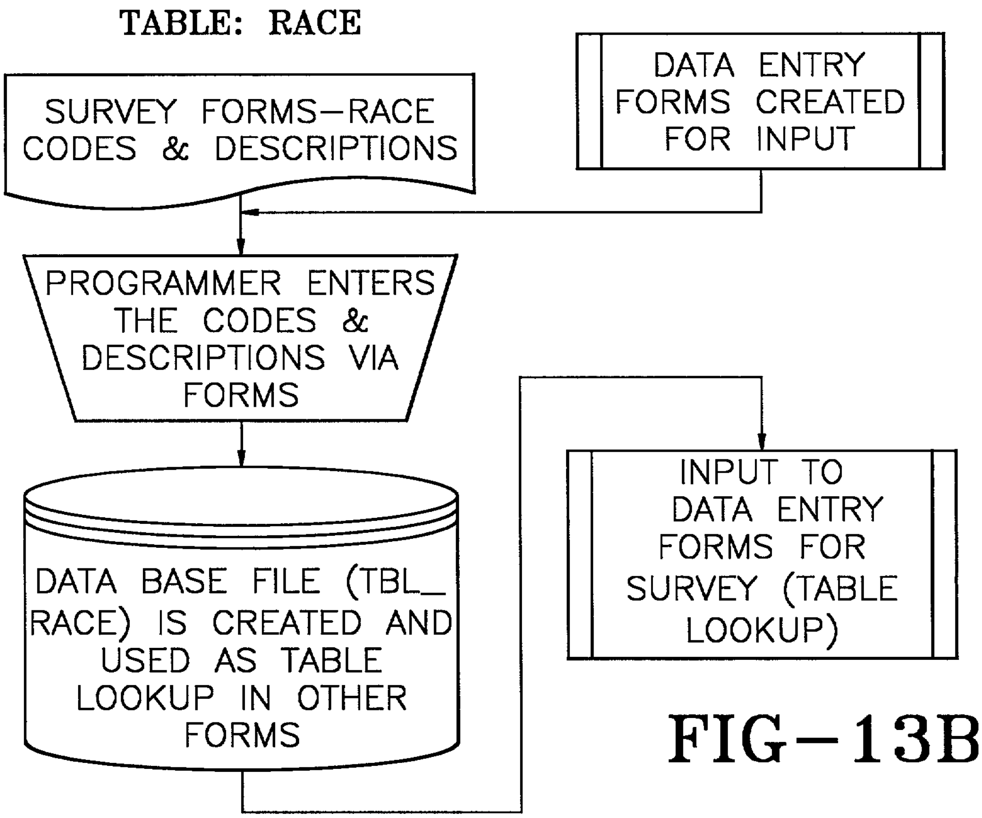


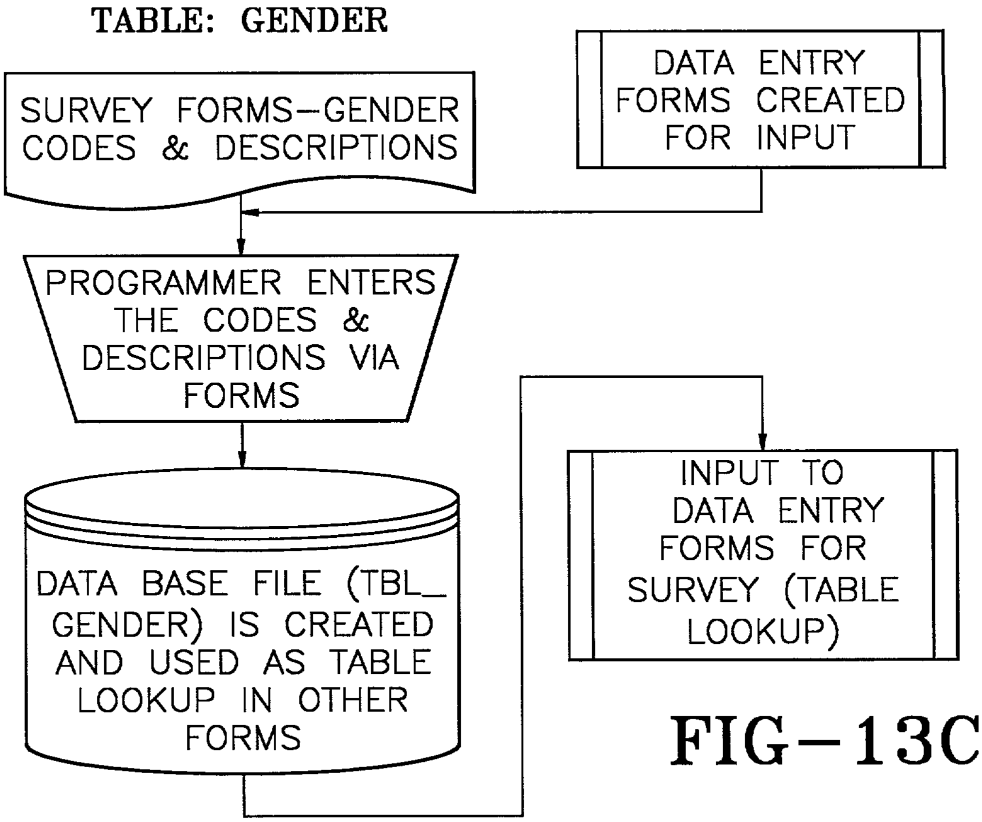
FIG-12E



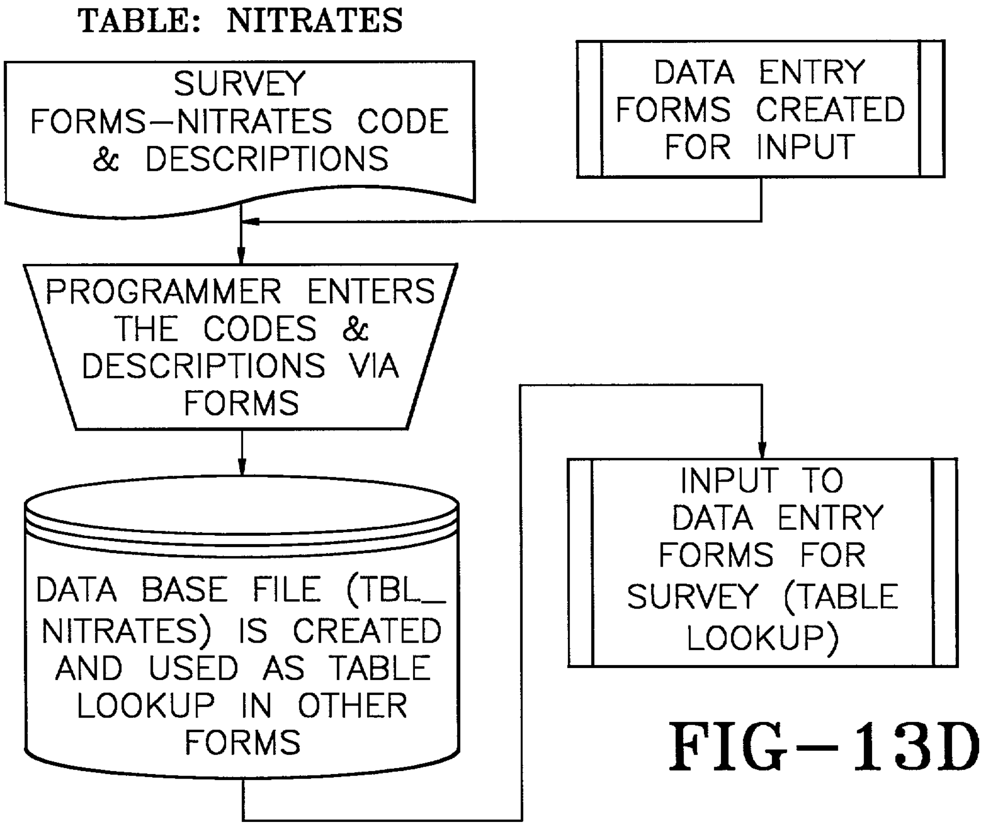
FIG–13A



FIG–13B

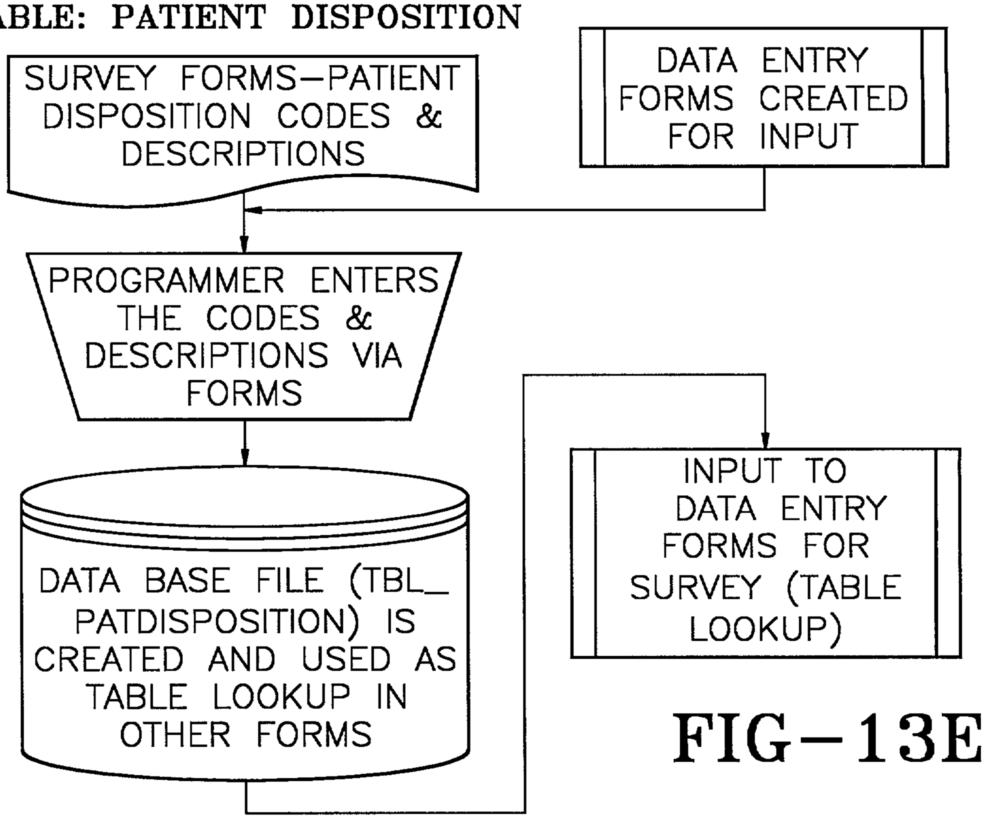


FIG–13C



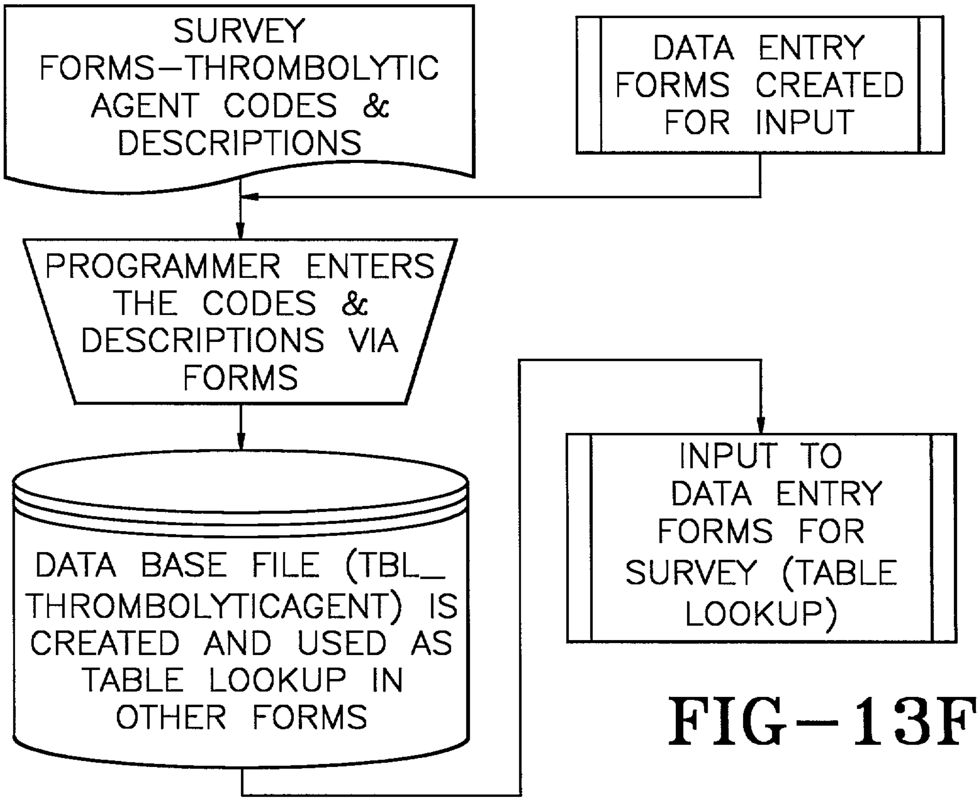
FIG–13D

TABLE: PATIENT DISPOSITION

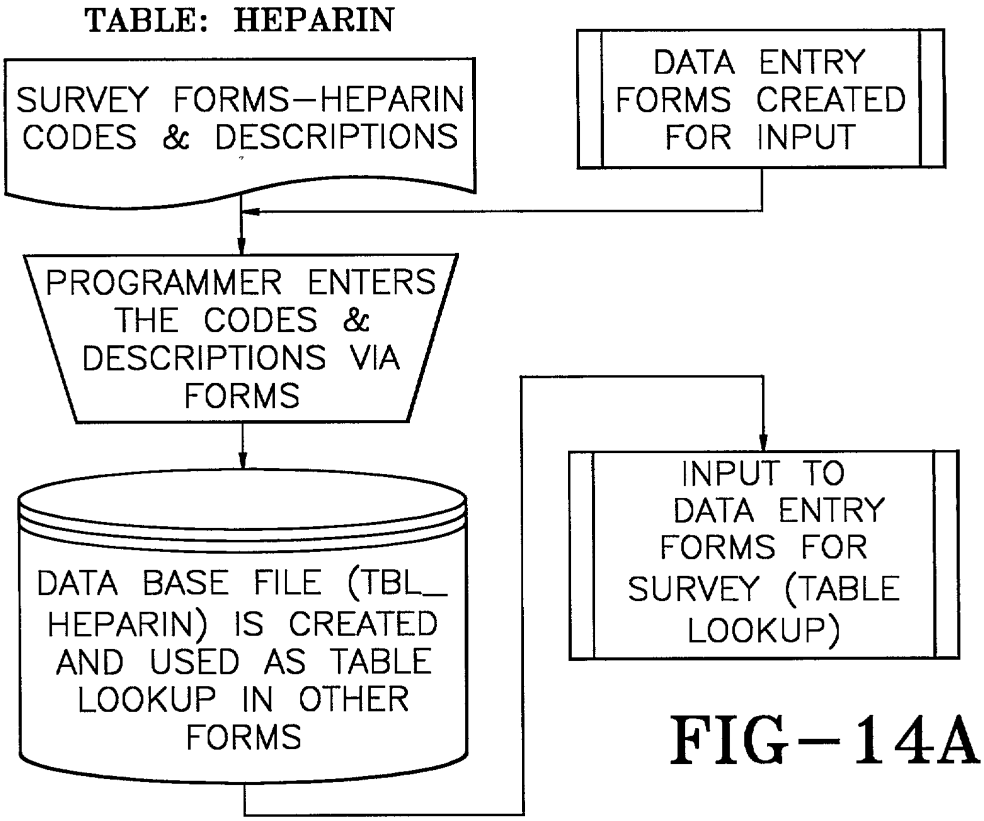


FIG—13E

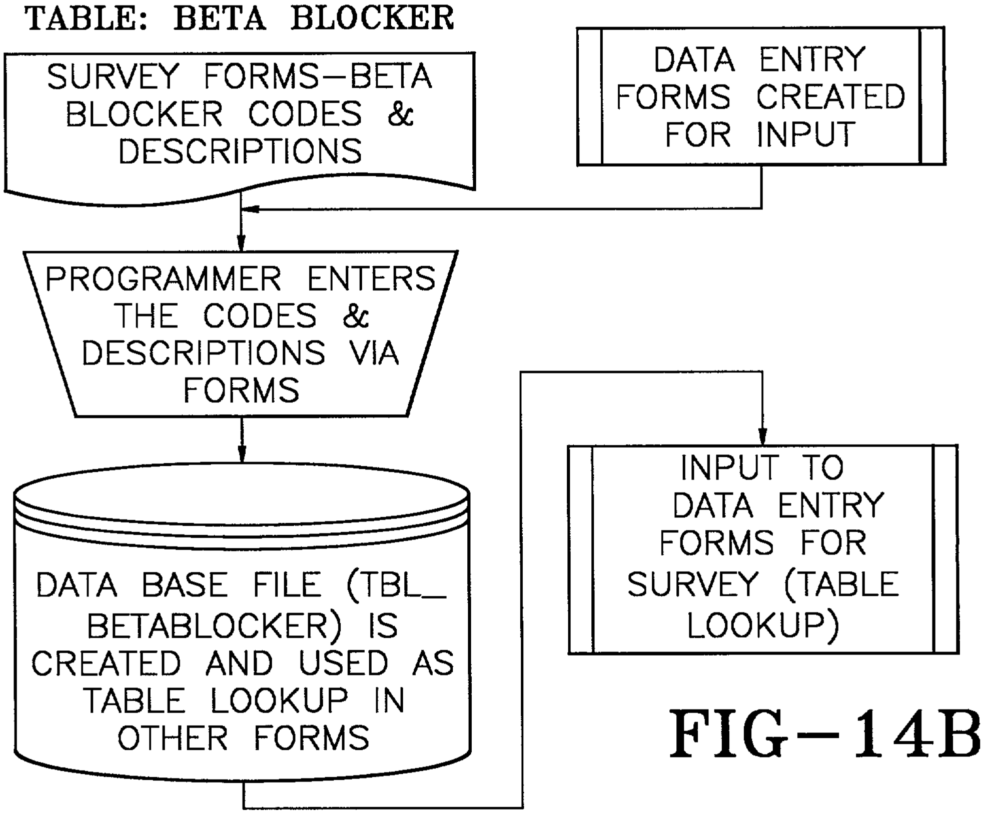
TABLE: THROMBOLYTIC AGENT



FIG—13F

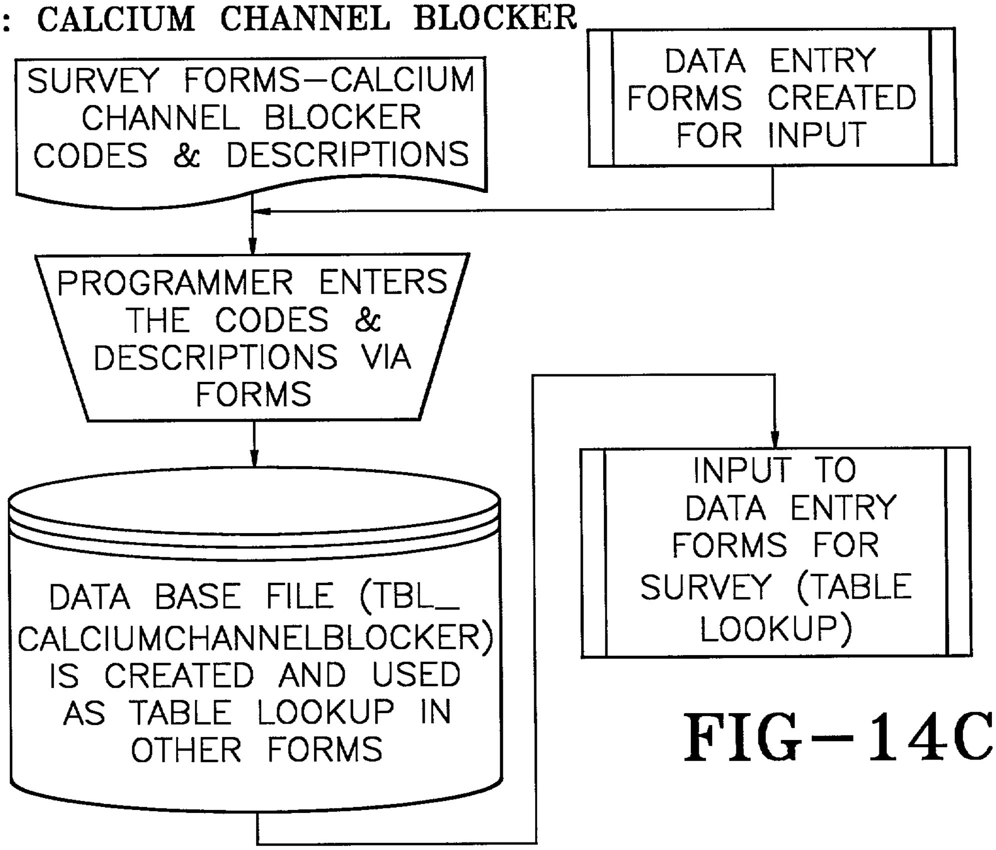


FIG—14A



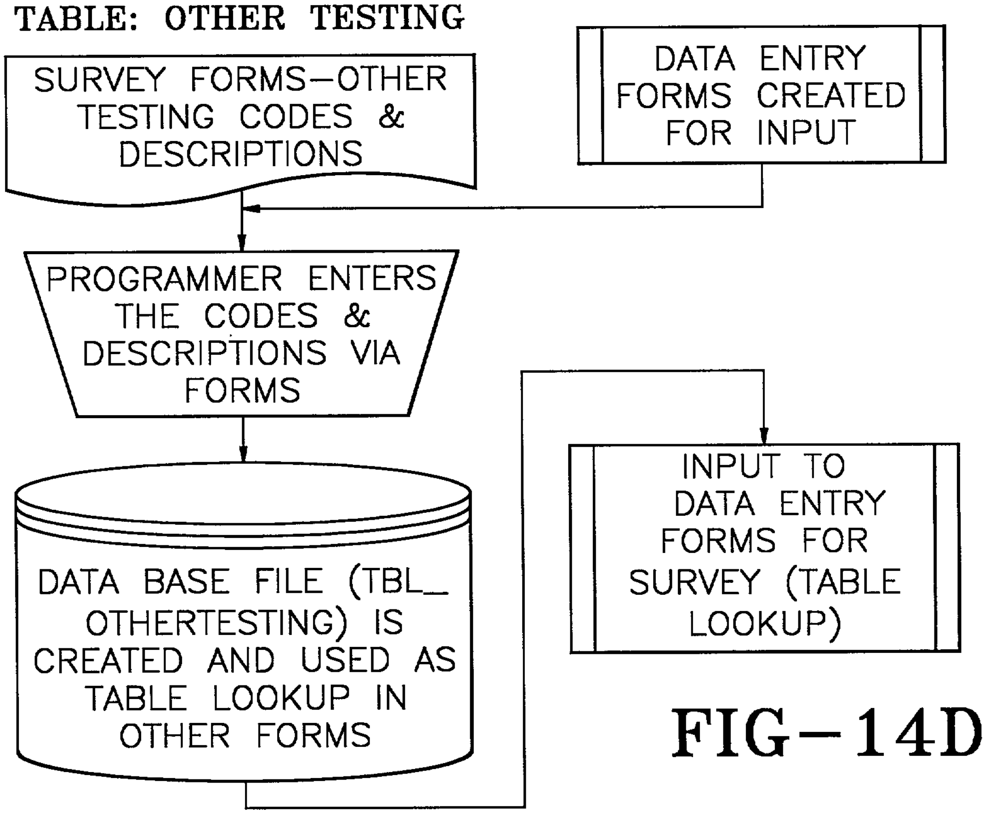
FIG—14B

TABLE: CALCIUM CHANNEL BLOCKER



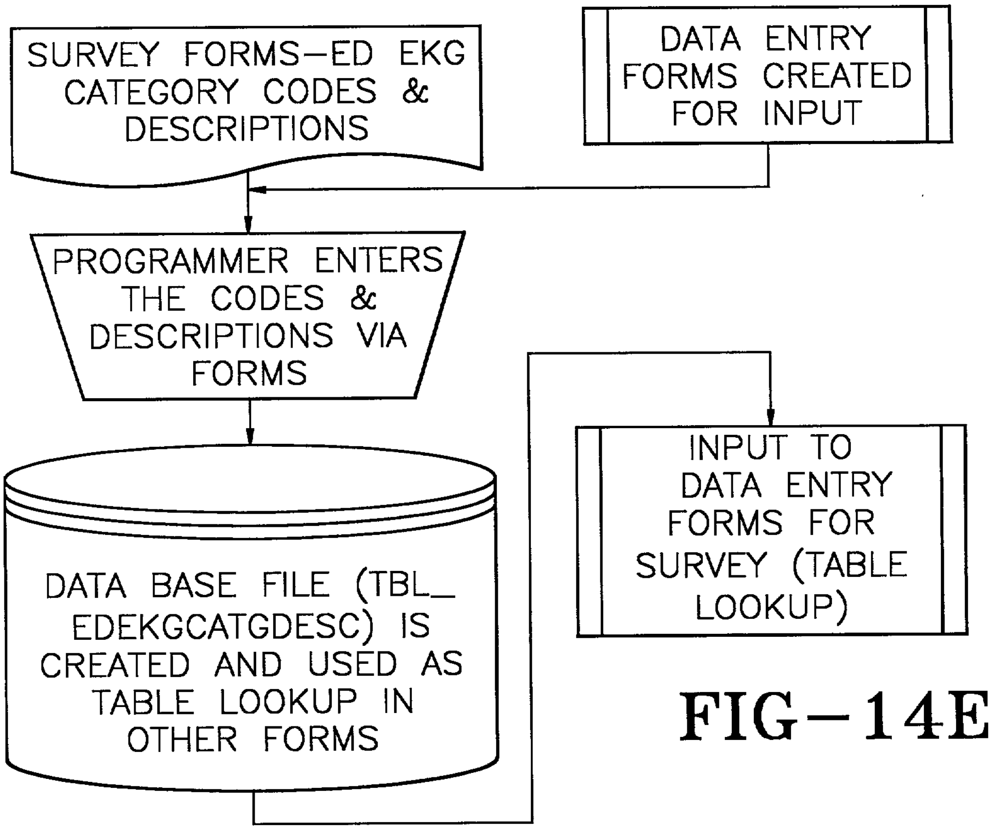
FIG—14C

TABLE: OTHER TESTING



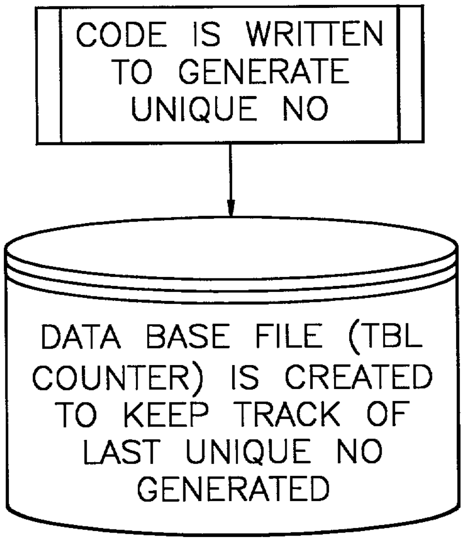
FIG—14D

TABLE: ED EKG CATEGORY DESCRIPTIONS



FIG–14E

TABLE: COUNTER



FIG–14F

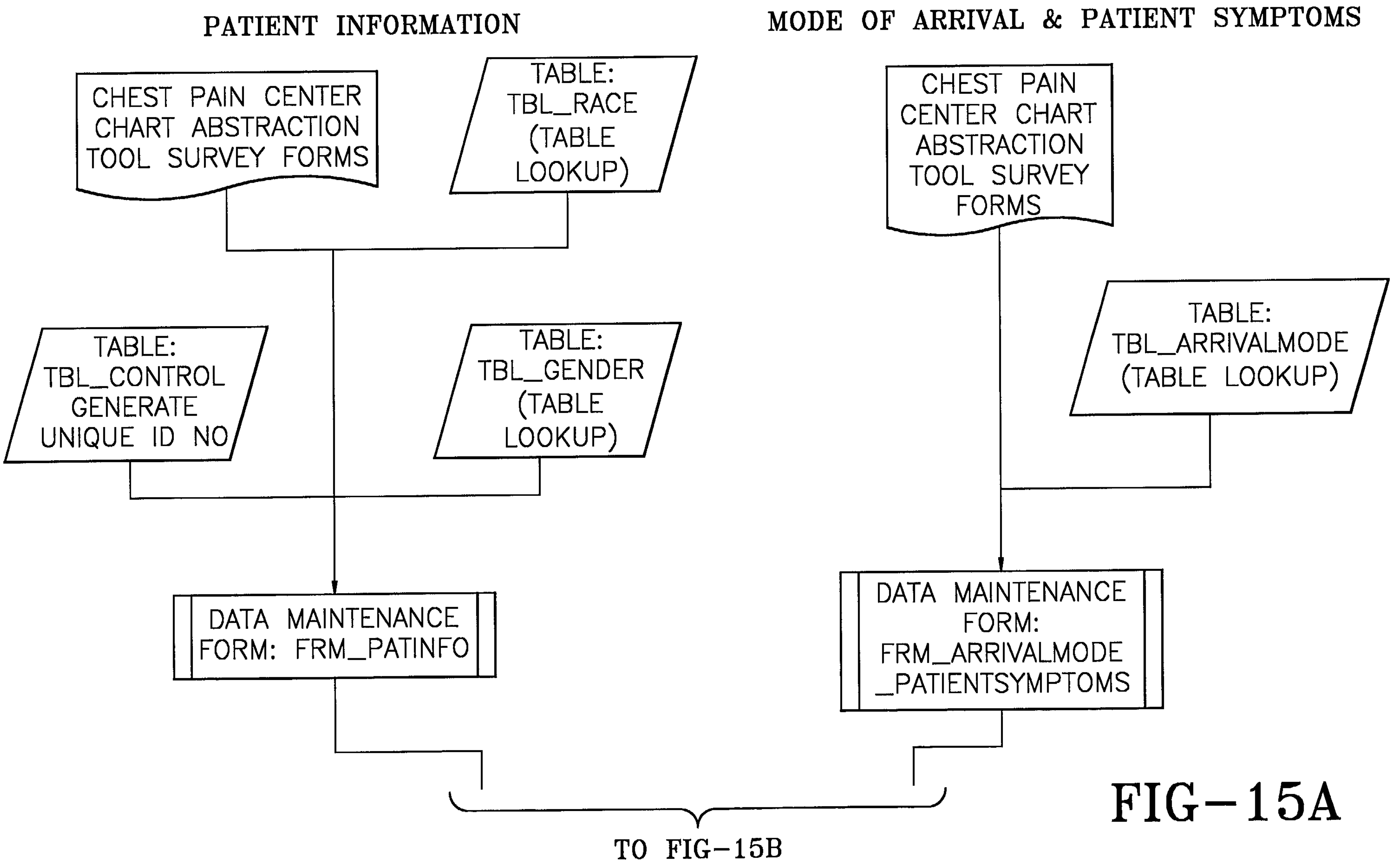

PATIENT INFORMATION
MODE OF ARRIVAL & PATIENT SYMPTOMS
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
TABLE: TBL_RACE (TABLE LOOKUP)
TABLE: TBL_CONTROL GENERATE UNIQUE ID NO
TABLE: TBL_GENDER (TABLE LOOKUP)
DATA MAINTENANCE FORM: FRM_PATINFO
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
TABLE: TBL_ARRIVALMODE (TABLE LOOKUP)
DATA MAINTENANCE FORM: FRM_ARRIVALMODE _PATIENTSYMPTOMS
TO FIG-15B

FIG-15A

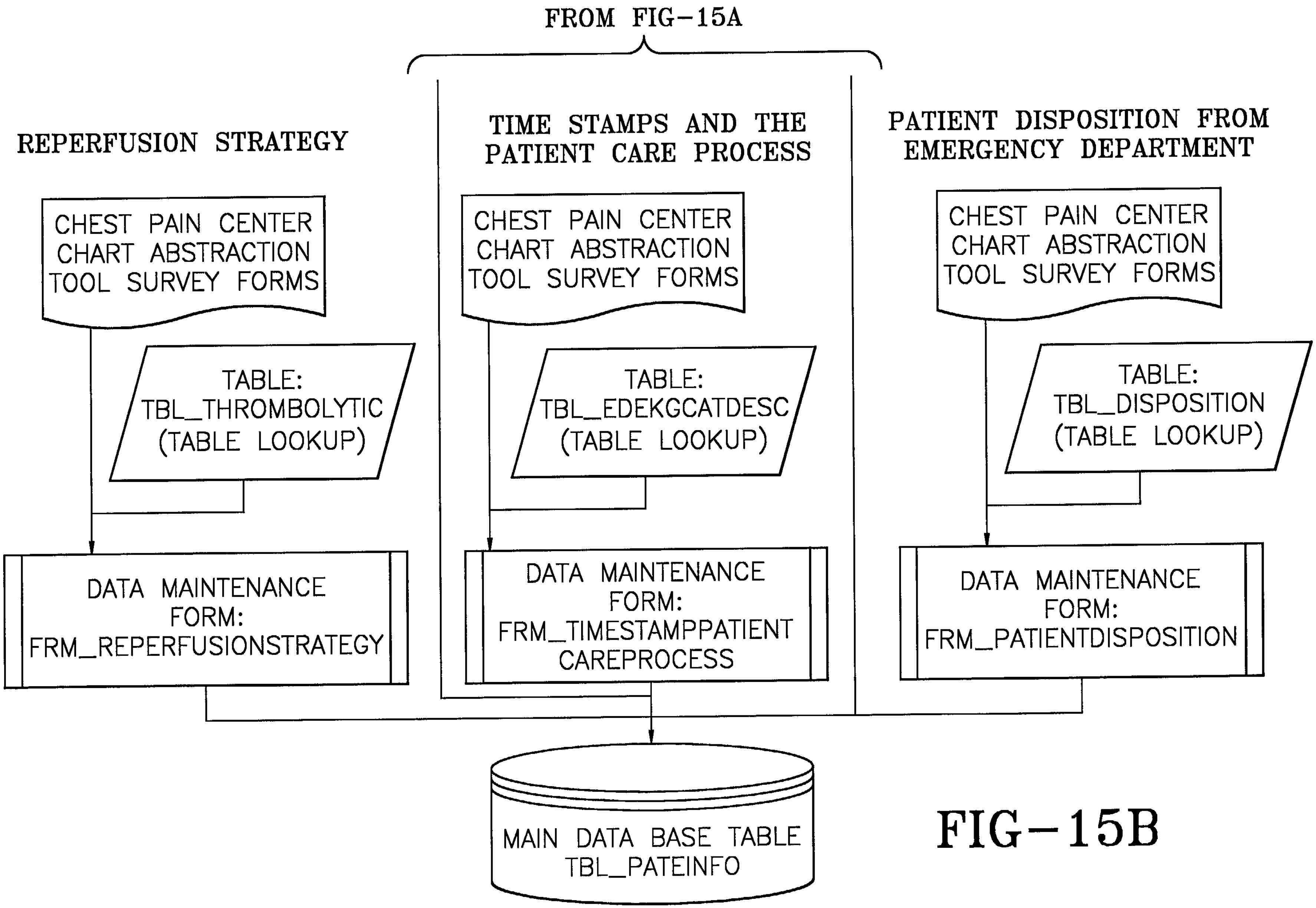

FROM FIG-15A
REPERFUSION STRATEGY
TIME STAMPS AND THE PATIENT CARE PROCESS
PATIENT DISPOSITION FROM EMERGENCY DEPARTMENT
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
TABLE: TBL_THROMBOLYTIC (TABLE LOOKUP)
DATA MAINTENANCE FORM: FRM_REPERFUSIONSTRATEGY
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
TABLE: TBL_EDEKGCATDESC (TABLE LOOKUP)
DATA MAINTENANCE FORM: FRM_TIMESTAMPPATIENT CAREPROCESS
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
TABLE: TBL_DISPOSITION (TABLE LOOKUP)
DATA MAINTENANCE FORM: FRM_PATIENTDISPOSITION
MAIN DATA BASE TABLE TBL_PATEINFO

FIG-15B

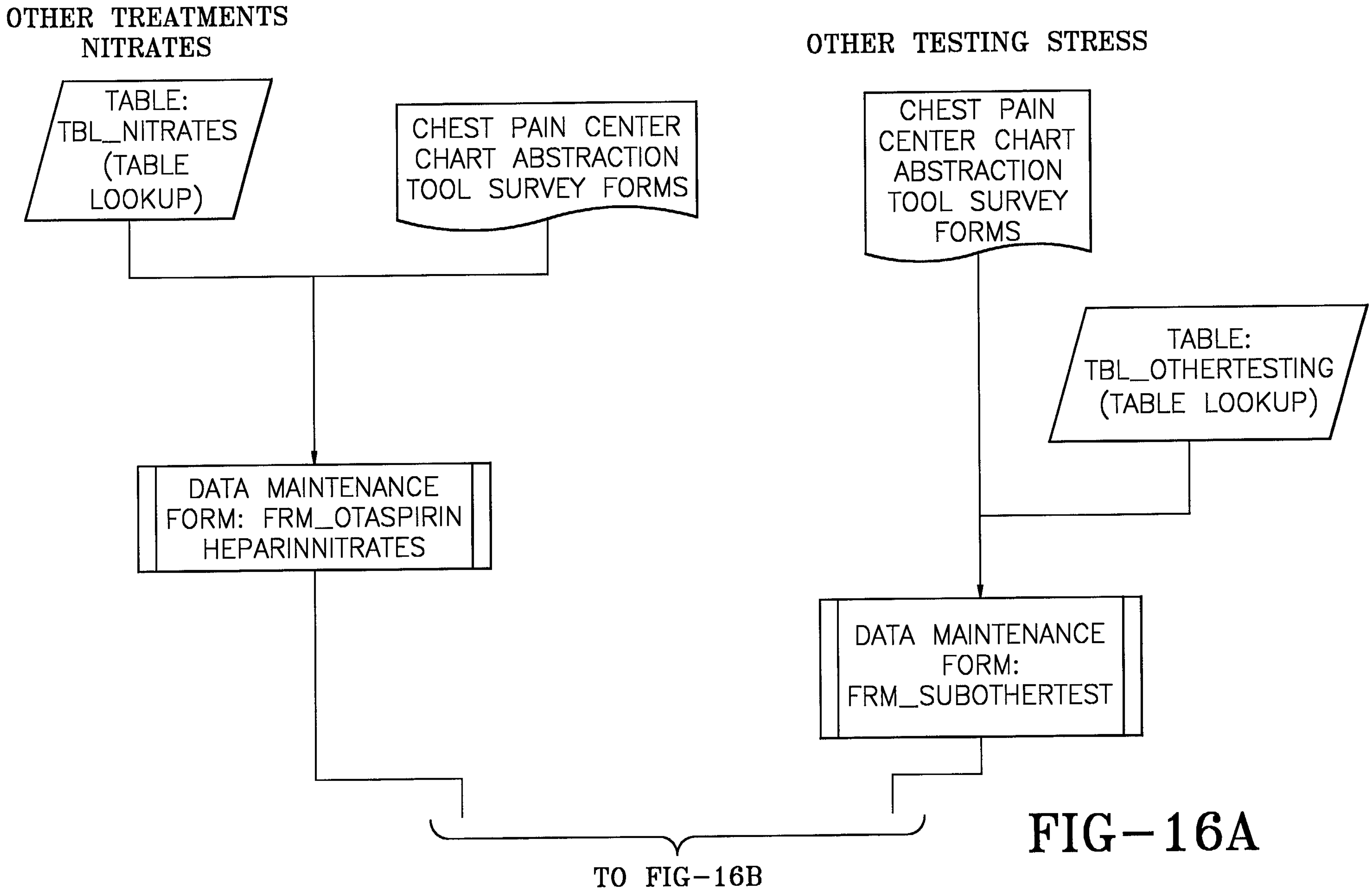

OTHER TREATMENTS NITRATES
TABLE: TBL_NITRATES (TABLE LOOKUP)
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
DATA MAINTENANCE FORM: FRM_OTASPIRIN HEPARINNITRATES
OTHER TESTING STRESS
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
TABLE: TBL_OTHERTESTING (TABLE LOOKUP)
DATA MAINTENANCE FORM: FRM_SUBOTHERTEST
TO FIG-16B

FIG-16A

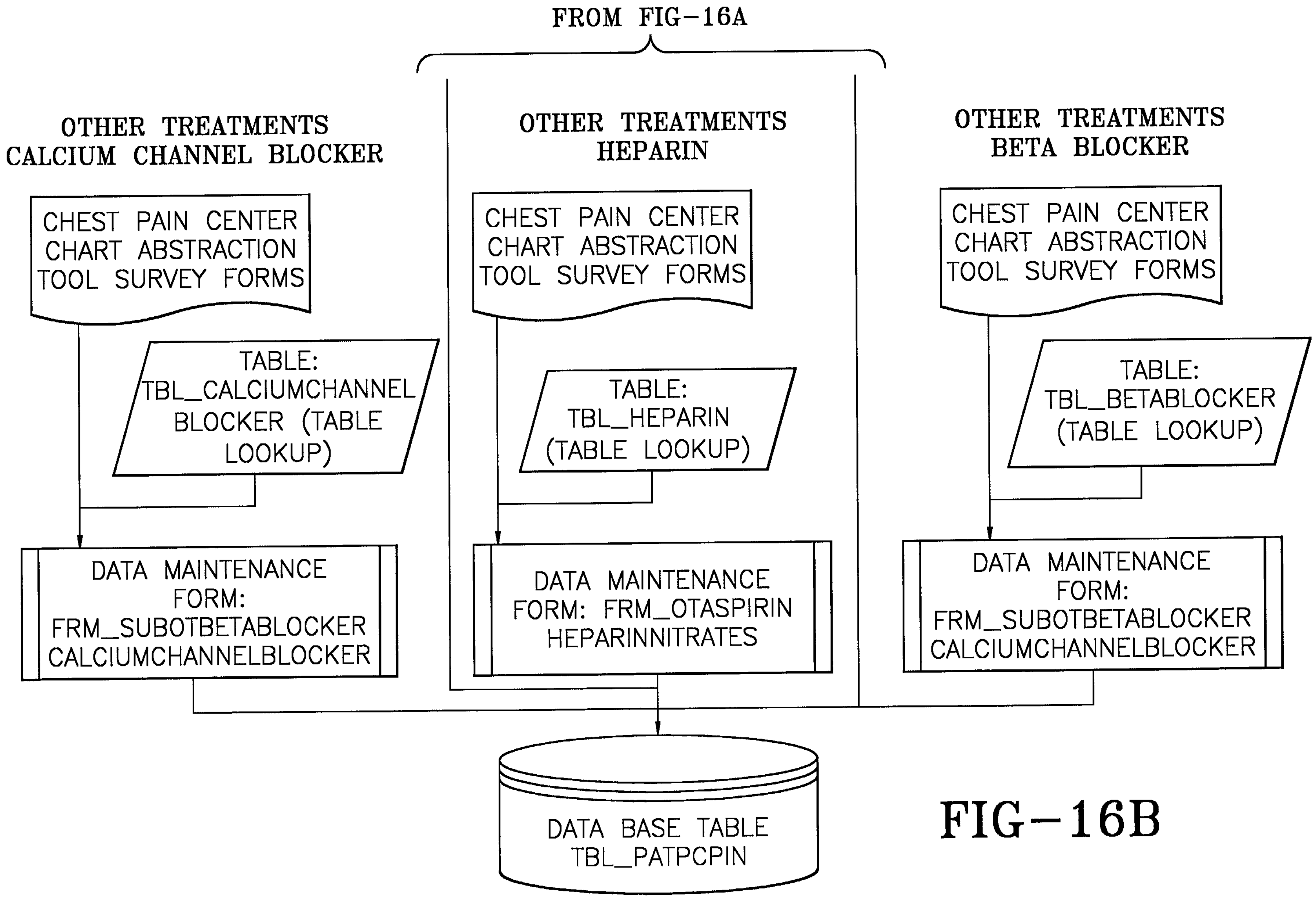
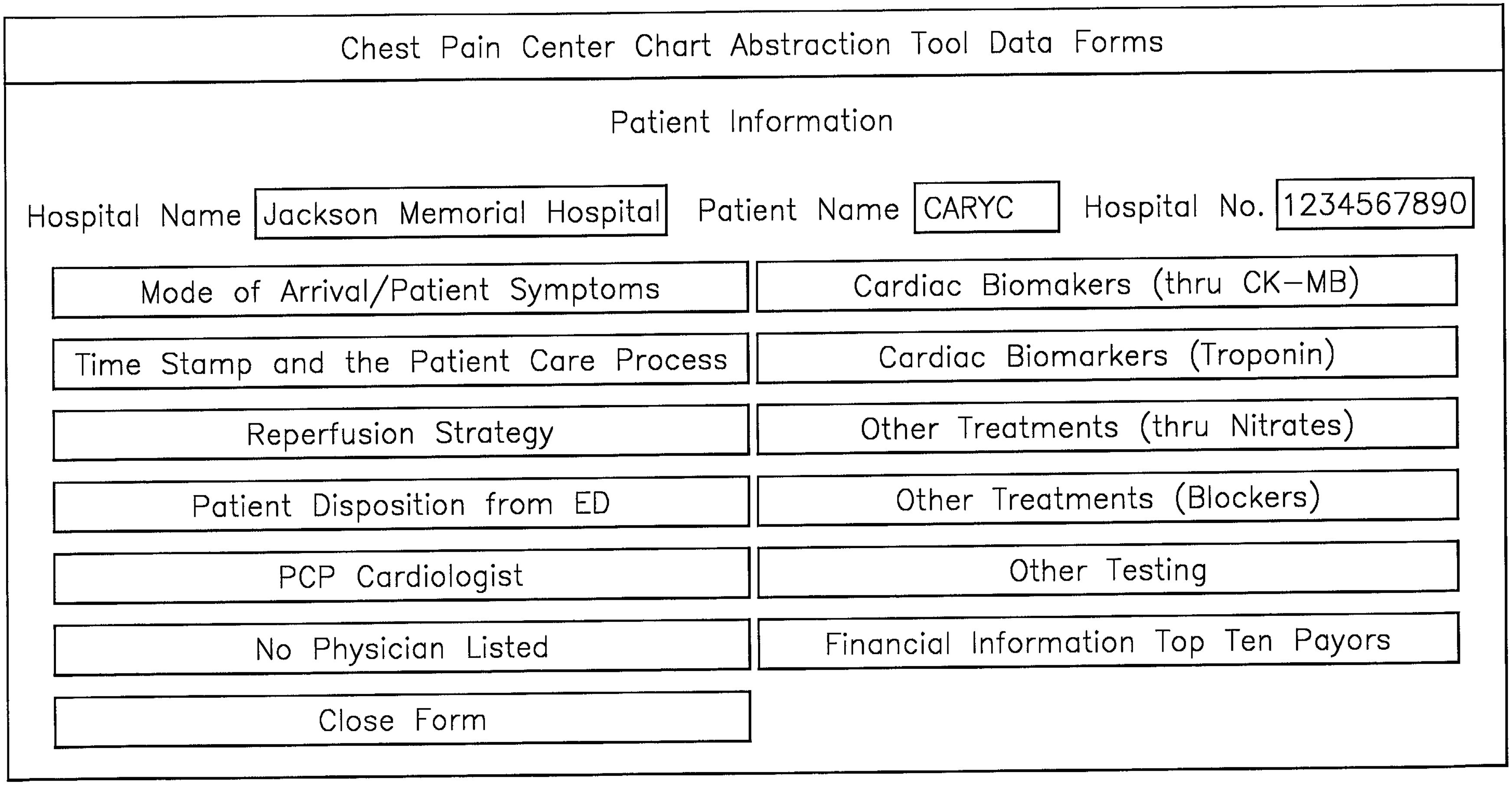

FROM FIG-16A
OTHER TREATMENTS CALCIUM CHANNEL BLOCKER
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
TABLE: TBL_CALCIUMCHANNEL BLOCKER (TABLE LOOKUP)
DATA MAINTENANCE FORM: FRM_SUBOTBETABLOCKER CALCIUMCHANNELBLOCKER
OTHER TREATMENTS HEPARIN
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
TABLE: TBL_HEPARIN (TABLE LOOKUP)
DATA MAINTENANCE FORM: FRM_OTASPIRIN HEPARINNITRATES
OTHER TREATMENTS BETA BLOCKER
CHEST PAIN CENTER CHART ABSTRACTION TOOL SURVEY FORMS
TABLE: TBL_BETABLOCKER (TABLE LOOKUP)
DATA MAINTENANCE FORM: FRM_SUBOTBETABLOCKER CALCIUMCHANNELBLOCKER
DATA BASE TABLE TBL_PATPCPIN

FIG-16B

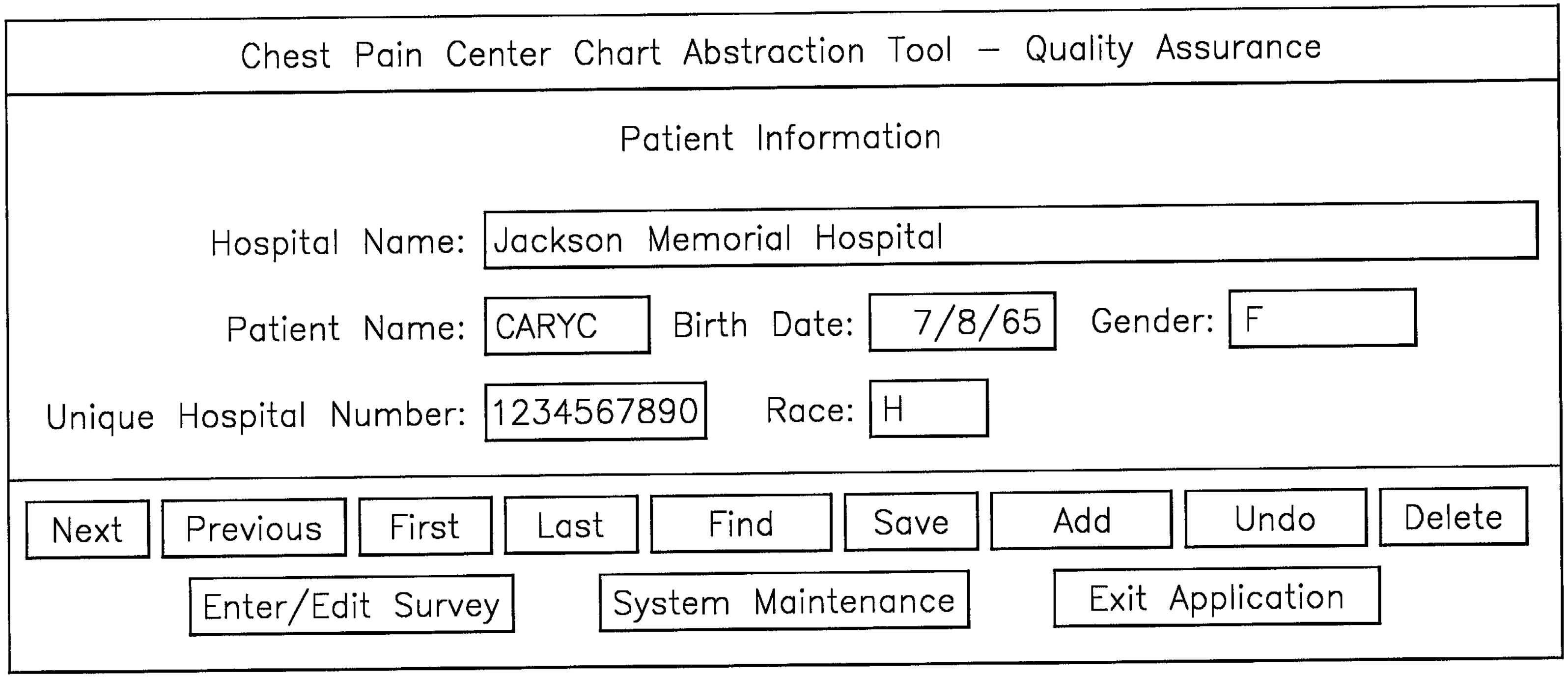


Chest Pain Center Chart Abstraction Tool Data Forms

Patient Information

Hospital Name Jackson Memorial Hospital
Patient Name CARYC
Hospital No. 1234567890

FIG–17A



Chest Pain Center Chart Abstraction Tool – Quality Assurance

Patient Information

Hospital Name: Jackson Memorial Hospital

Patient Name: CARYC

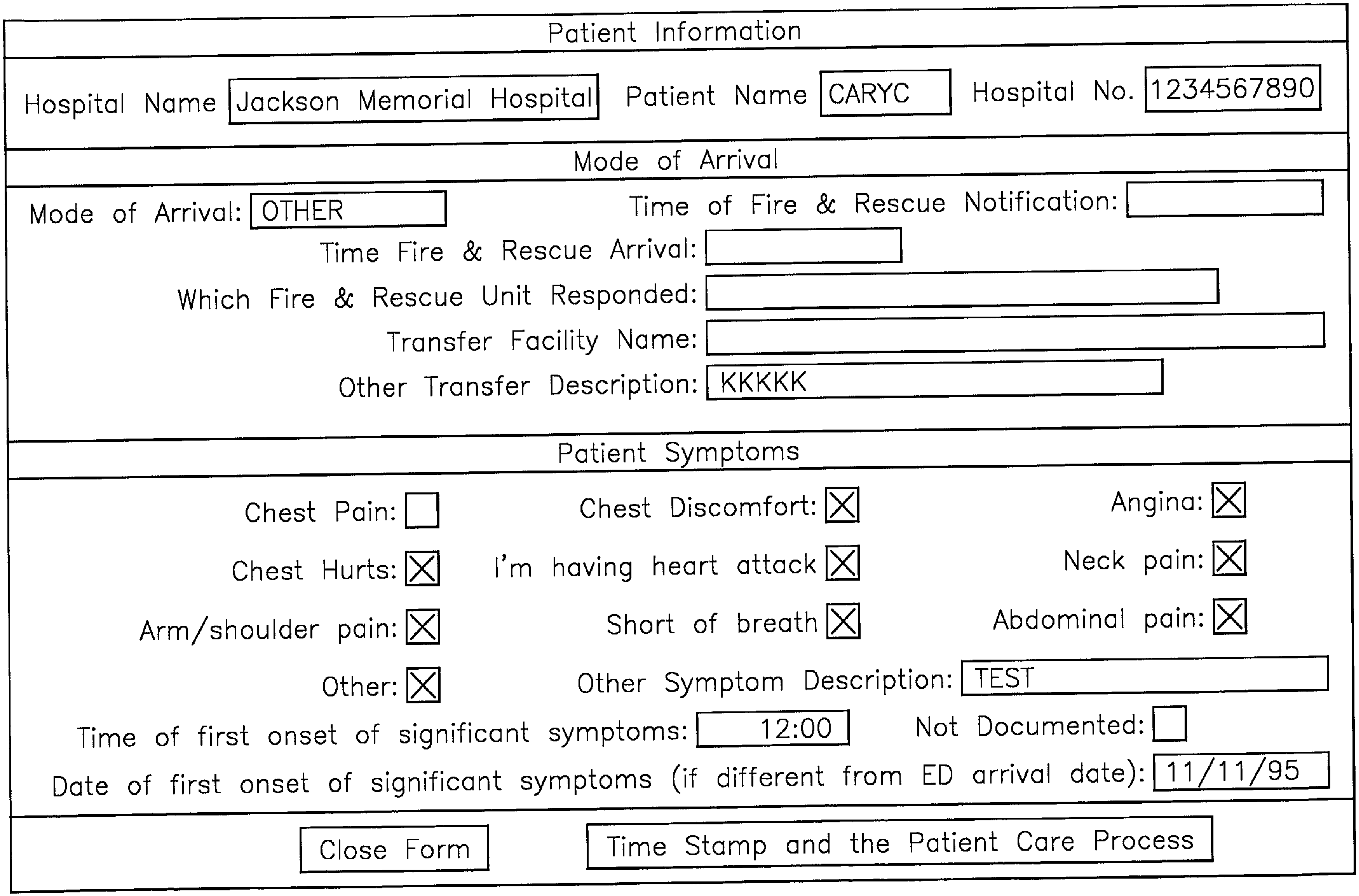
Birth Date: 7/8/65

Gender: F

Unique Hospital Number: 1234567890

Race: H

FIG–17B



Patient Information

Hospital Name Jackson Memorial Hospital Patient Name CARYC Hospital No. 1234567890

Mode of Arrival

Mode of Arrival: OTHER

Time of Fire & Rescue Notification:

Time Fire & Rescue Arrival:

Which Fire & Rescue Unit Responded:

Transfer Facility Name:

Other Transfer Description: KKKKK

Patient Symptoms

Chest Pain: ☐

Chest Discomfort: ☒

Angina: ☒

Chest Hurts: ☒

I'm having heart attack ☒

Neck pain: ☒

Arm/shoulder pain: ☒

Short of breath ☒

Abdominal pain: ☒

Other: ☒

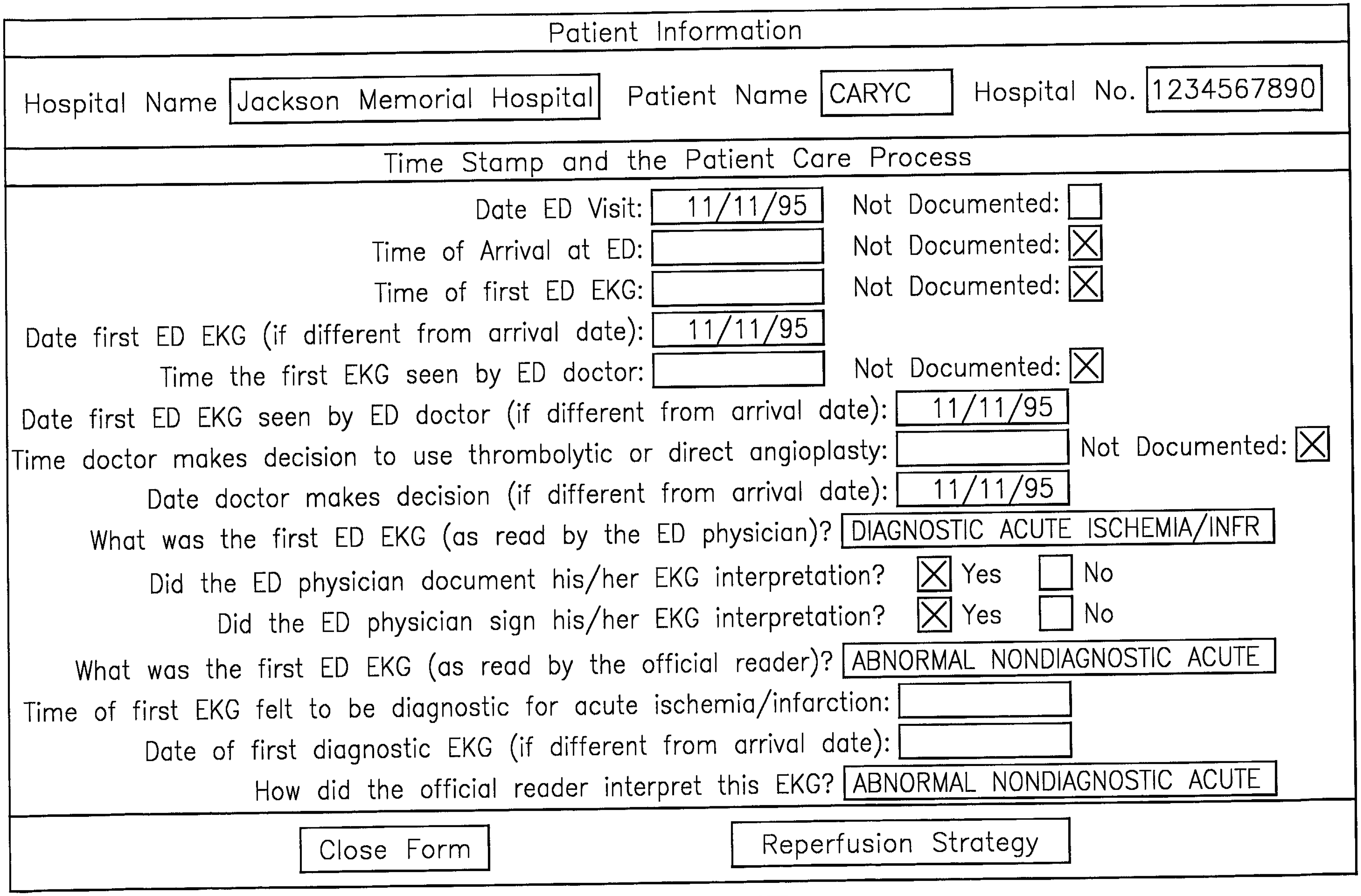
Other Symptom Description: TEST

Time of first onset of significant symptoms: 12:00

Not Documented: ☐

Date of first onset of significant symptoms (if different from ED arrival date): 11/11/95

FIG-17C



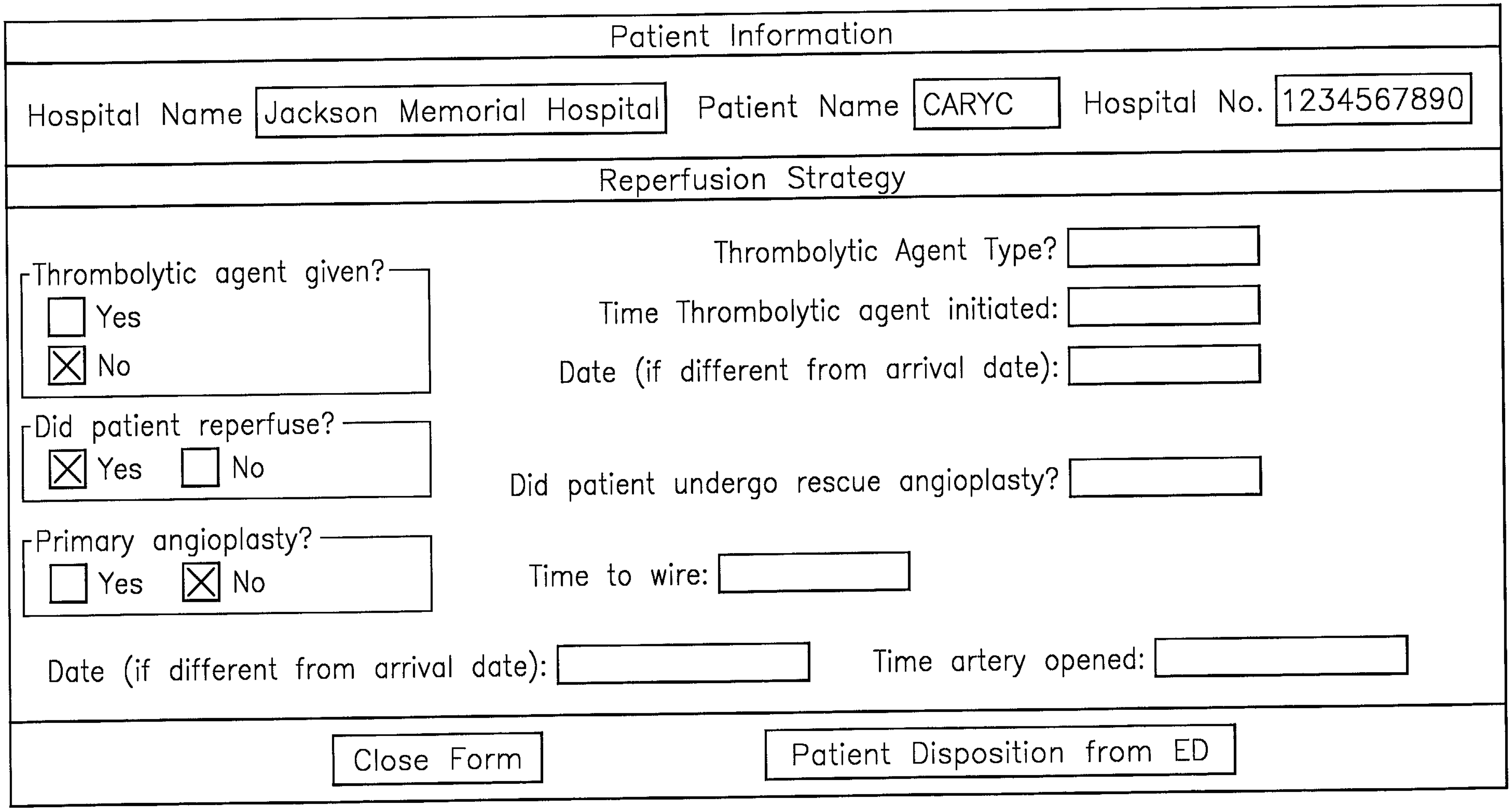
Patient Information

Hospital Name: Jackson Memorial Hospital Patient Name: CARYC Hospital No.: 1234567890

Time Stamp and the Patient Care Process

Date ED Visit: 11/11/95 Not Documented: ☐
Time of Arrival at ED: Not Documented: ☒
Time of first ED EKG: Not Documented: ☒
Date first ED EKG (if different from arrival date): 11/11/95
Time the first EKG seen by ED doctor: Not Documented: ☒
Date first ED EKG seen by ED doctor (if different from arrival date): 11/11/95
Time doctor makes decision to use thrombolytic or direct angioplasty: Not Documented: ☒
Date doctor makes decision (if different from arrival date): 11/11/95
What was the first ED EKG (as read by the ED physician)? DIAGNOSTIC ACUTE ISCHEMIA/INFR
Did the ED physician document his/her EKG interpretation? ☒ Yes ☐ No
Did the ED physician sign his/her EKG interpretation? ☒ Yes ☐ No
What was the first ED EKG (as read by the official reader)? ABNORMAL NONDIAGNOSTIC ACUTE
Time of first EKG felt to be diagnostic for acute ischemia/infarction:
Date of first diagnostic EKG (if different from arrival date):
How did the official reader interpret this EKG? ABNORMAL NONDIAGNOSTIC ACUTE

FIG-17D



Patient Information

Hospital Name: Jackson Memorial Hospital
Patient Name: CARYC
Hospital No.: 1234567890

Reperfusion Strategy

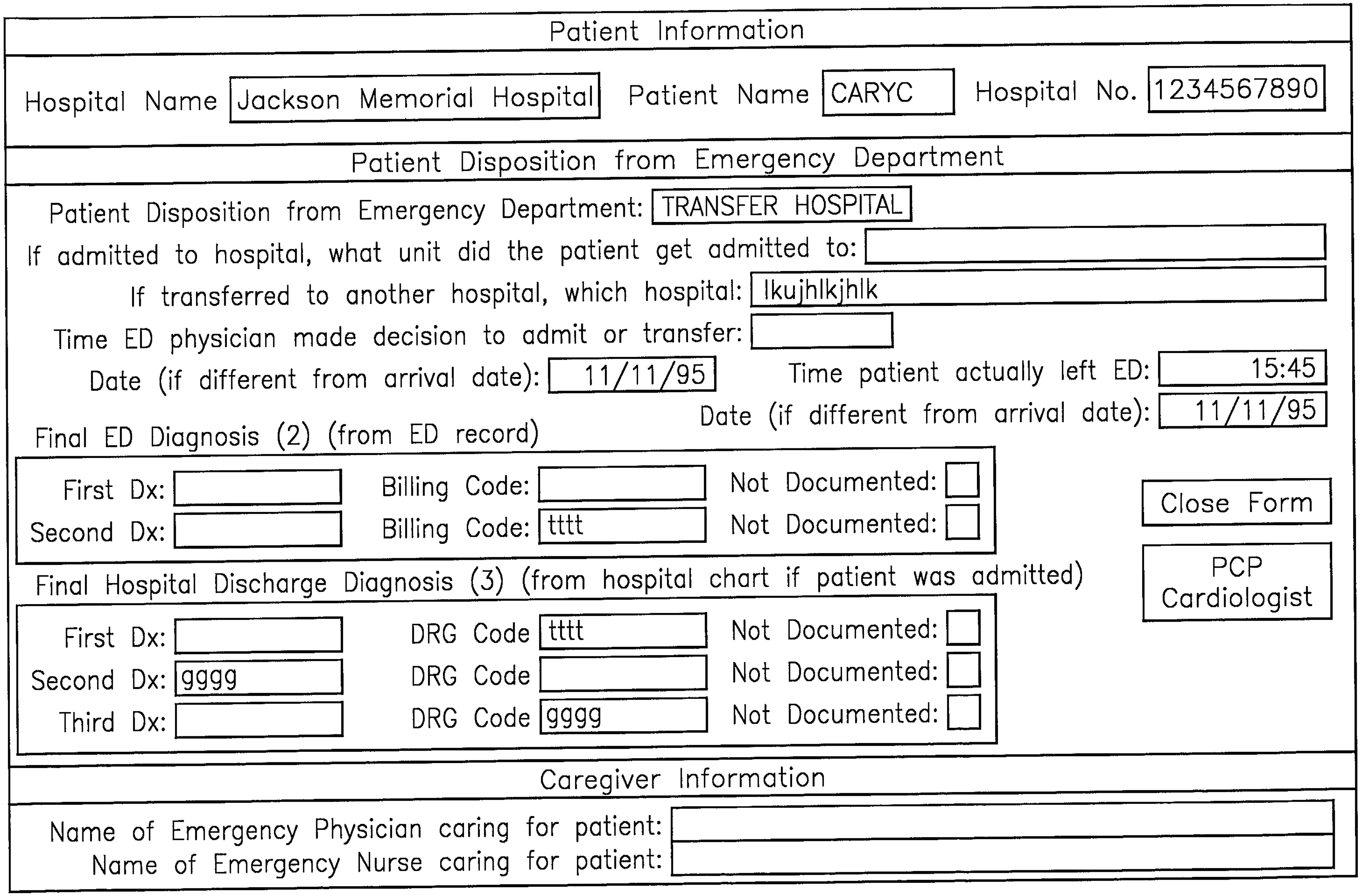
Thrombolytic agent given?
☐ Yes
☒ No

Did patient reperfuse?
☒ Yes ☐ No

Primary angioplasty?
☐ Yes ☒ No

Thrombolytic Agent Type?
Time Thrombolytic agent initiated:
Date (if different from arrival date):
Did patient undergo rescue angioplasty?
Time to wire:
Date (if different from arrival date):
Time artery opened:

FIG-17E



Patient Information

Hospital Name: Jackson Memorial Hospital
Patient Name: CARYC
Hospital No.: 1234567890

Patient Disposition from Emergency Department

Patient Disposition from Emergency Department: TRANSFER HOSPITAL
If admitted to hospital, what unit did the patient get admitted to:
If transferred to another hospital, which hospital: lkujhlkjhlk
Time ED physician made decision to admit or transfer:
Date (if different from arrival date): 11/11/95
Time patient actually left ED: 15:45
Date (if different from arrival date): 11/11/95

Final ED Diagnosis (2) (from ED record)

First Dx: Billing Code: Not Documented: ☐
Second Dx: Billing Code: tttt Not Documented: ☐

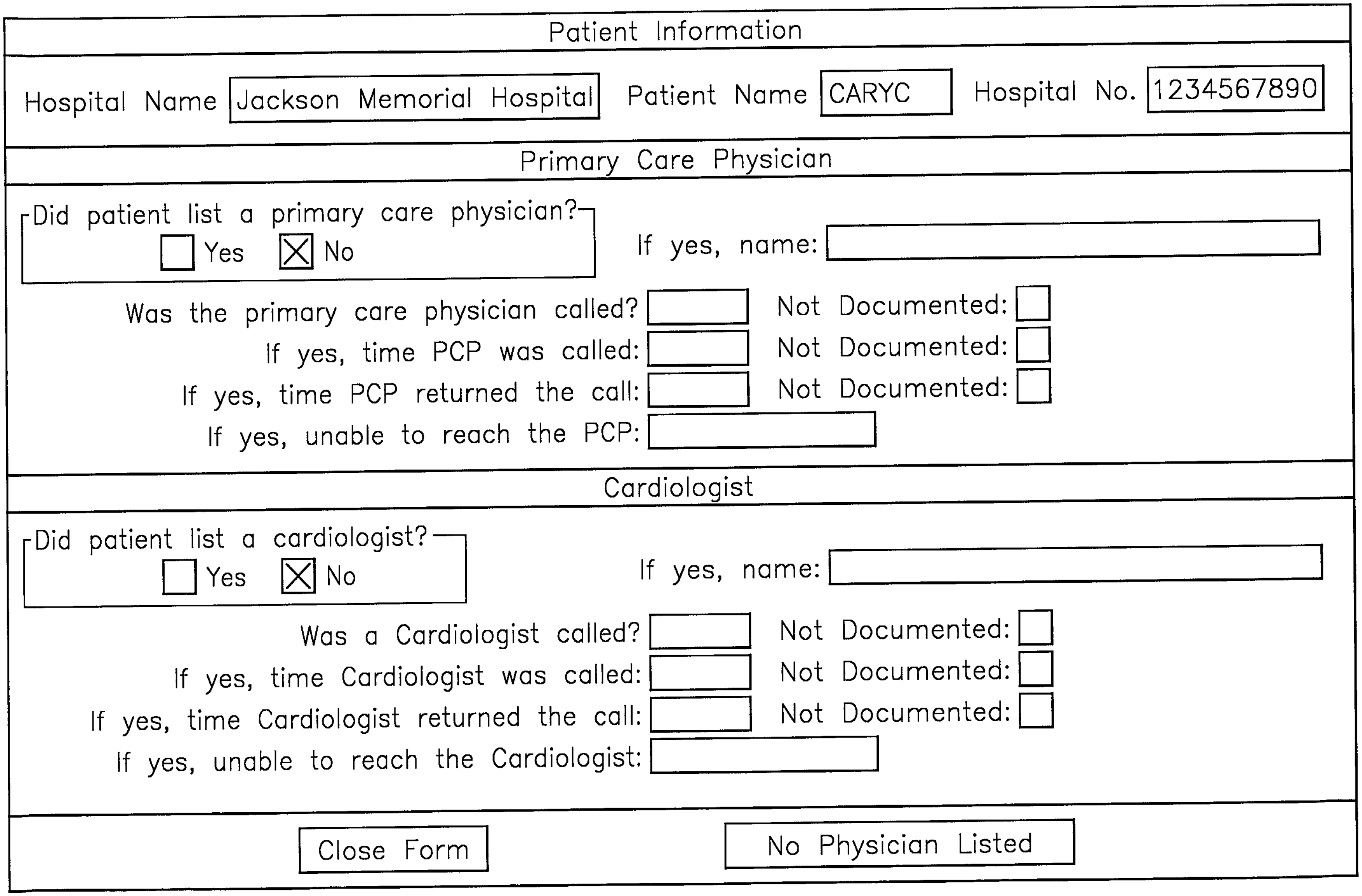
Final Hospital Discharge Diagnosis (3) (from hospital chart if patient was admitted)

First Dx: DRG Code tttt Not Documented: ☐
Second Dx: gggg DRG Code Not Documented: ☐
Third Dx: DRG Code gggg Not Documented: ☐

Caregiver Information

Name of Emergency Physician caring for patient:
Name of Emergency Nurse caring for patient:

FIG-17F



Patient Information

Hospital Name: Jackson Memorial Hospital
Patient Name: CARYC
Hospital No.: 1234567890

Primary Care Physician

Did patient list a primary care physician? ☐ Yes ☒ No
If yes, name:

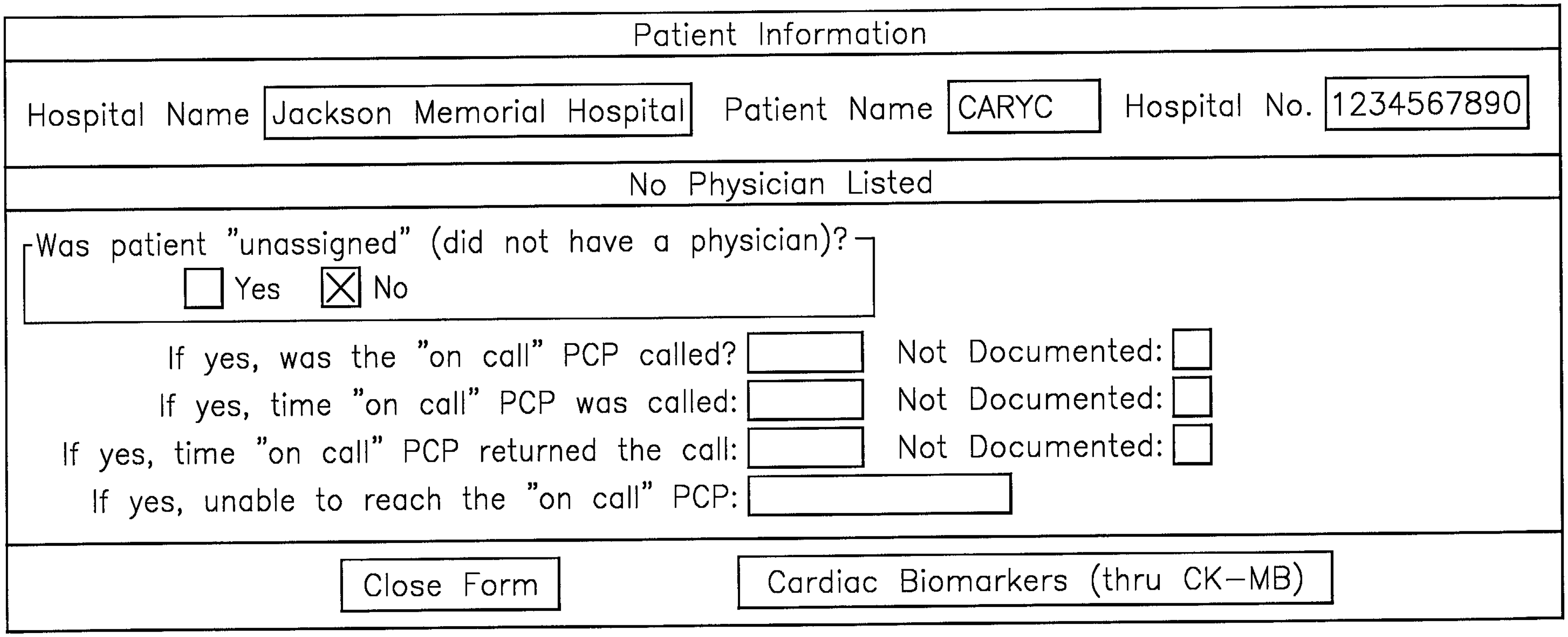
Was the primary care physician called? Not Documented: ☐
If yes, time PCP was called: Not Documented: ☐
If yes, time PCP returned the call: Not Documented: ☐
If yes, unable to reach the PCP:

Cardiologist

Did patient list a cardiologist? ☐ Yes ☒ No
If yes, name:

Was a Cardiologist called? Not Documented: ☐
If yes, time Cardiologist was called: Not Documented: ☐
If yes, time Cardiologist returned the call: Not Documented: ☐
If yes, unable to reach the Cardiologist:

FIG-17G



Patient Information

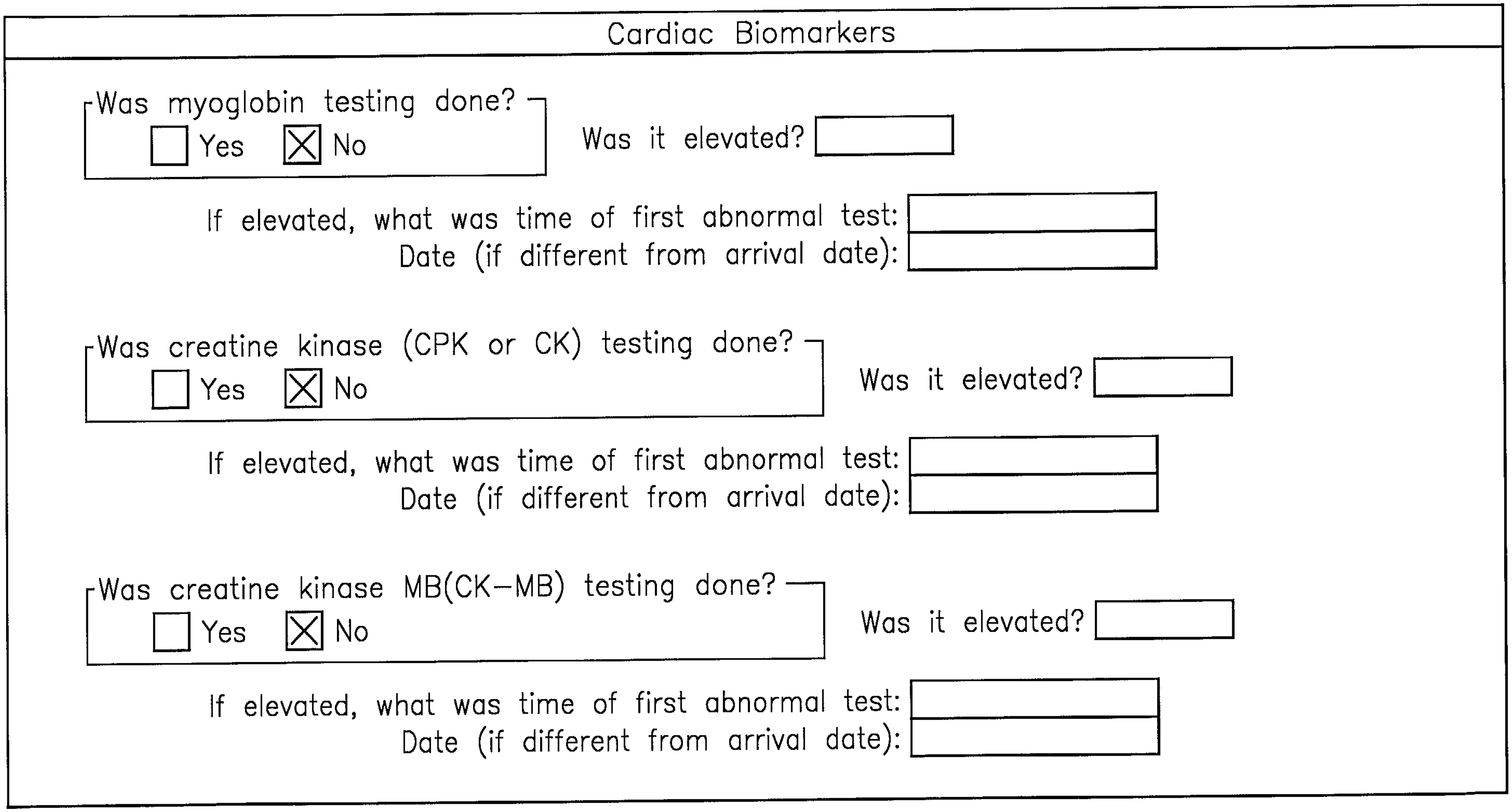
Hospital Name Jackson Memorial Hospital Patient Name CARYC Hospital No. 1234567890

No Physician Listed

Was patient "unassigned" (did not have a physician)?
☐ Yes ☒ No

If yes, was the "on call" PCP called? ☐ Not Documented: ☐
If yes, time "on call" PCP was called: ☐ Not Documented: ☐
If yes, time "on call" PCP returned the call: ☐ Not Documented: ☐
If yes, unable to reach the "on call" PCP: ☐

FIG-17H



Cardiac Biomarkers

Was myoglobin testing done?
☐ Yes ☒ No

Was it elevated? ☐

If elevated, what was time of first abnormal test:
Date (if different from arrival date):

Was creatine kinase (CPK or CK) testing done?
☐ Yes ☒ No

Was it elevated? ☐

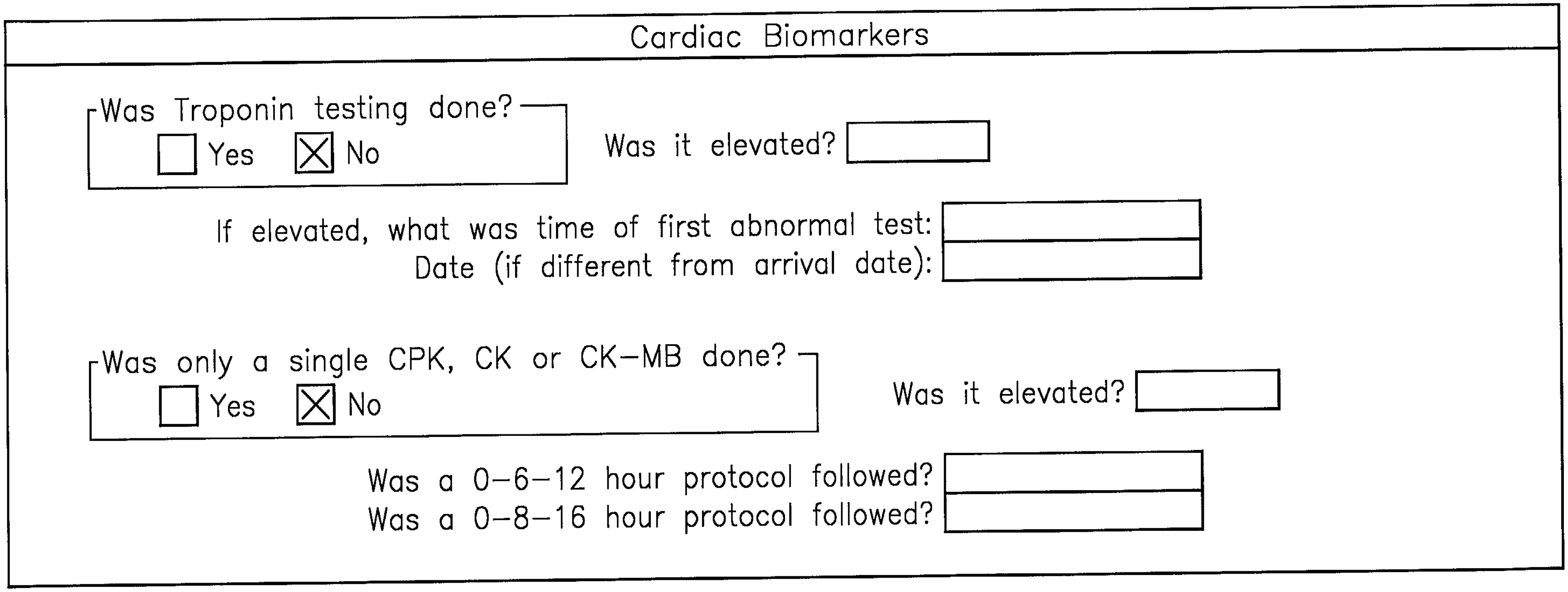
If elevated, what was time of first abnormal test:
Date (if different from arrival date):

Was creatine kinase MB(CK–MB) testing done?
☐ Yes ☒ No

Was it elevated? ☐

If elevated, what was time of first abnormal test:
Date (if different from arrival date):

FIG–17I



Cardiac Biomarkers

Was Troponin testing done?
☐ Yes ☒ No

Was it elevated? ☐

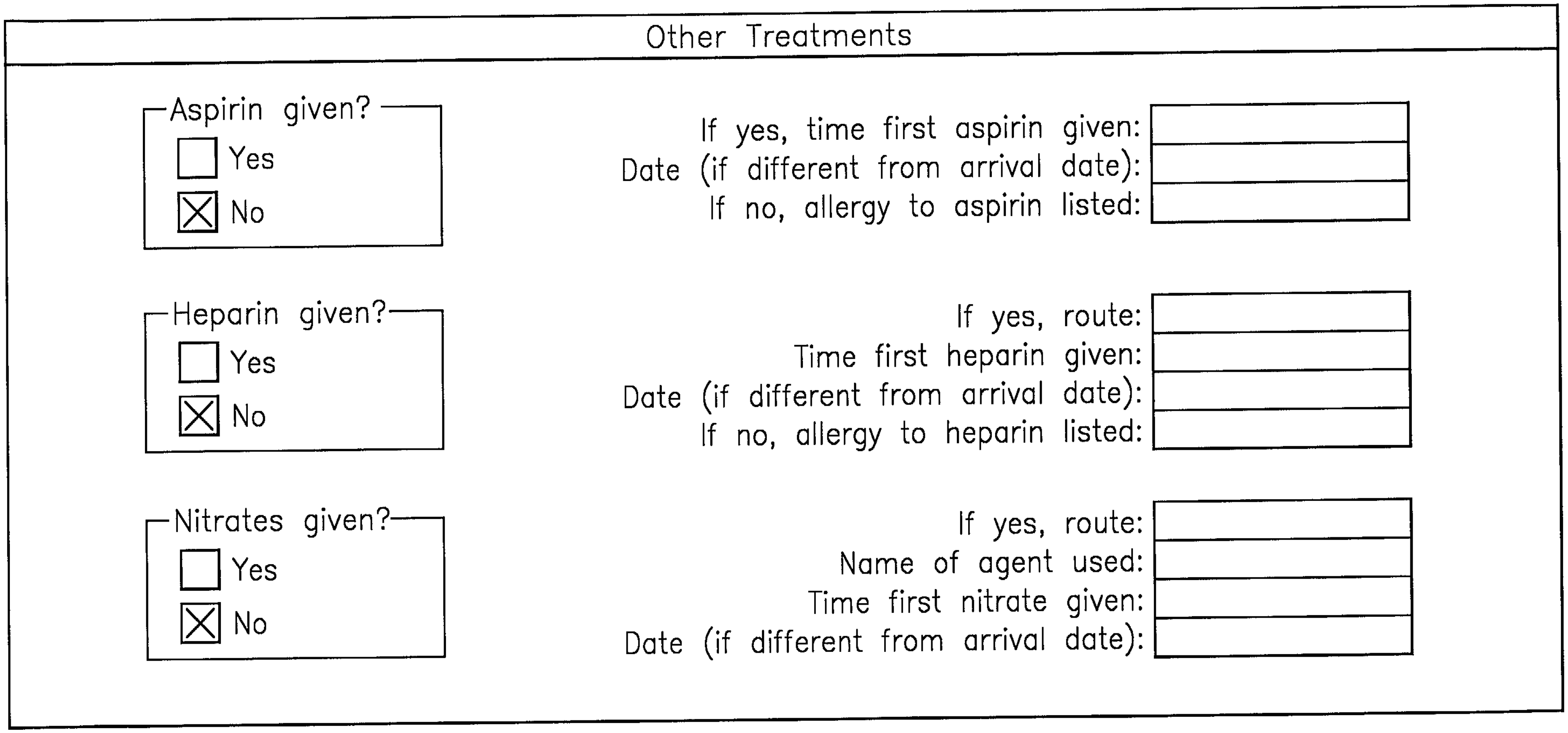
If elevated, what was time of first abnormal test: ☐
Date (if different from arrival date): ☐

Was only a single CPK, CK or CK–MB done?
☐ Yes ☒ No

Was it elevated? ☐

Was a 0–6–12 hour protocol followed? ☐
Was a 0–8–16 hour protocol followed? ☐

FIG–17J



Other Treatments

Aspirin given?
☐ Yes
☒ No

If yes, time first aspirin given: ☐
Date (if different from arrival date): ☐
If no, allergy to aspirin listed: ☐

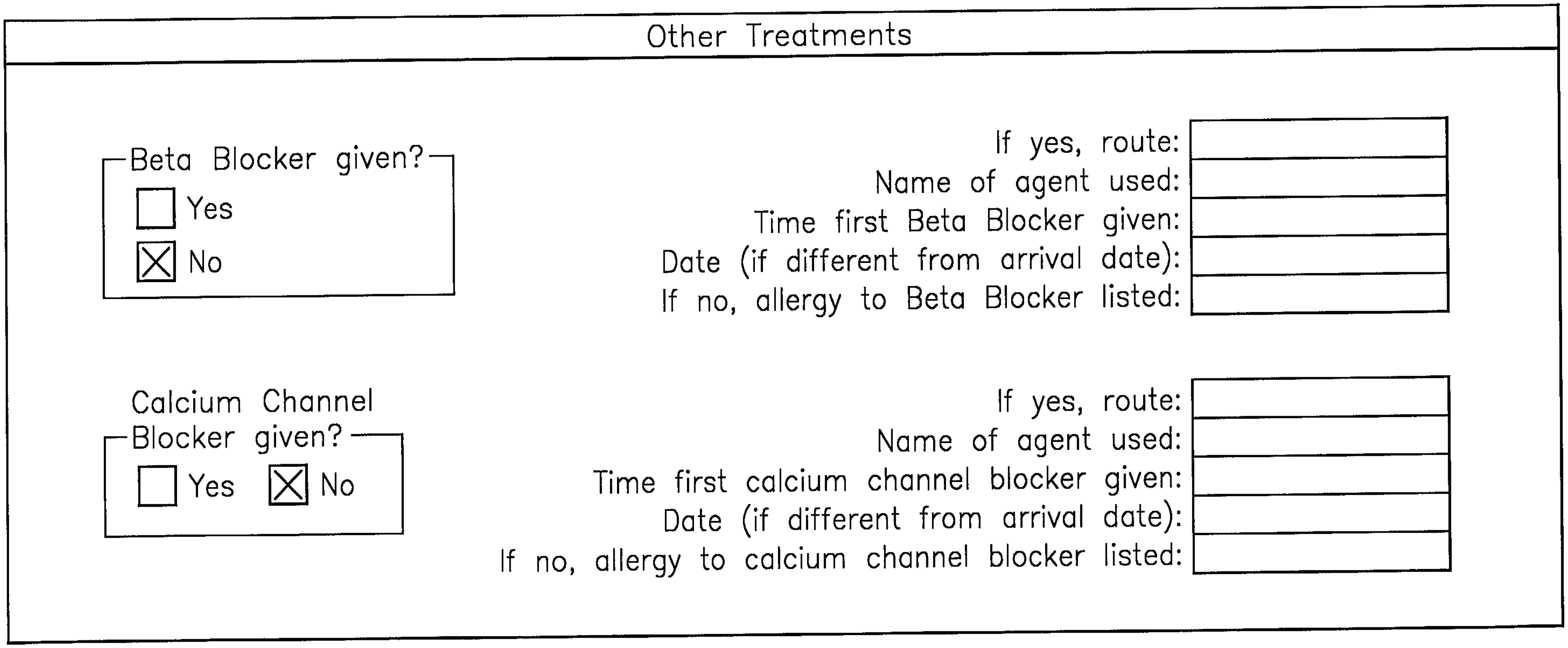
Heparin given?
☐ Yes
☒ No

If yes, route: ☐
Time first heparin given: ☐
Date (if different from arrival date): ☐
If no, allergy to heparin listed: ☐

Nitrates given?
☐ Yes
☒ No

If yes, route: ☐
Name of agent used: ☐
Time first nitrate given: ☐
Date (if different from arrival date): ☐

FIG-17K



Other Treatments

Beta Blocker given?
☐ Yes
☒ No

If yes, route:
Name of agent used:
Time first Beta Blocker given:
Date (if different from arrival date):
If no, allergy to Beta Blocker listed:

Calcium Channel Blocker given?
☐ Yes ☒ No

If yes, route:
Name of agent used:
Time first calcium channel blocker given:
Date (if different from arrival date):
If no, allergy to calcium channel blocker listed:

FIG-17L

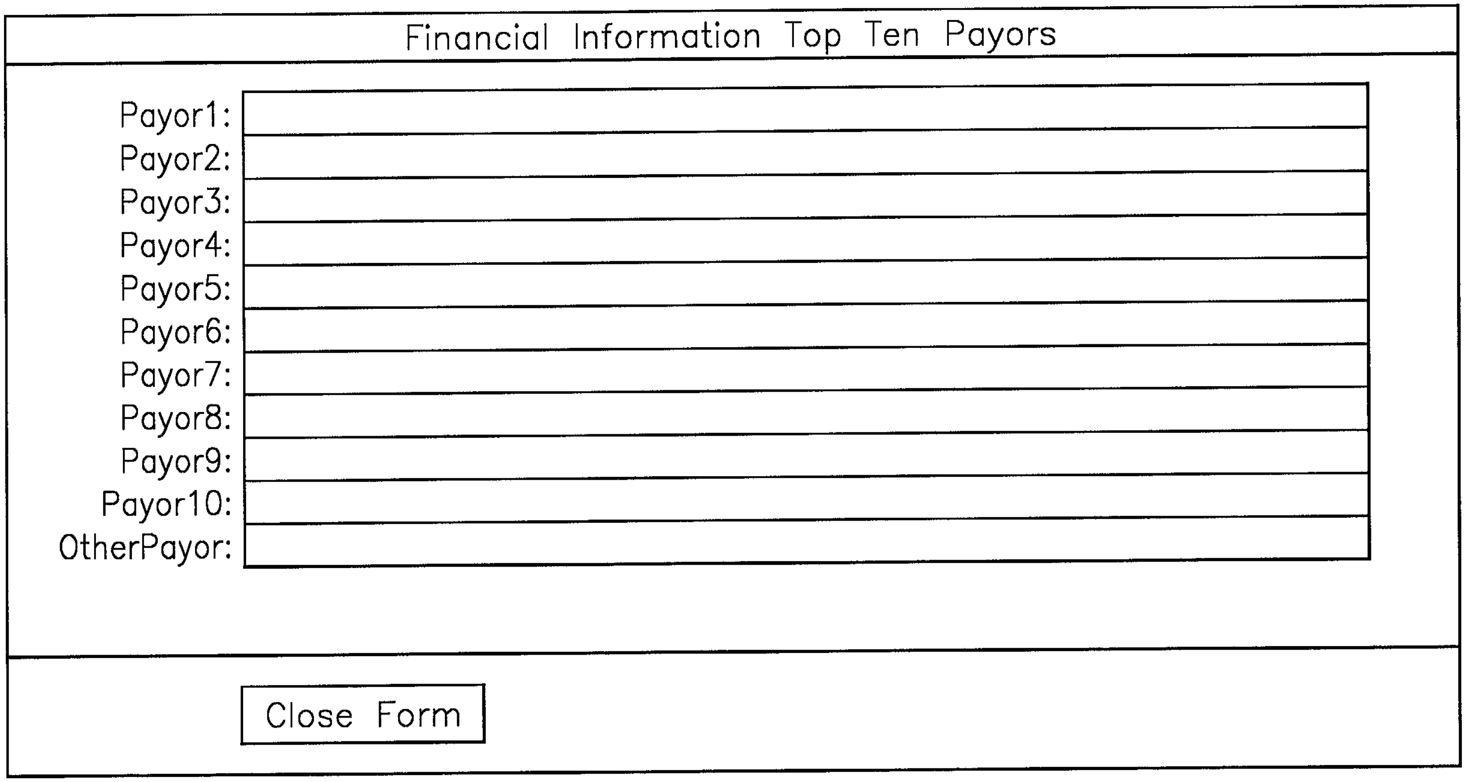

Financial Information Top Ten Payors
Payor1:
Payor2:
Payor3:
Payor4:
Payor5:
Payor6:
Payor7:
Payor8:
Payor9:
Payor10:
OtherPayor:
Close Form

FIG-17M

DECLARATION
AND
POWER OF ATTORNEY

As the below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled SYSTEM FOR EVALUATING TREATMENT OF CHEST PAIN PATIENTS the specification of which

(check one) [ ] is attached hereto.

[X] was filed on November 28, 1995 as
Application Serial No. 08/563,642
and was amended on ________________ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of the invention claimed in this application, in accordance with Title 37, Code of Federal Regulations, §1.56(a) and (b).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

			Priority Claimed	
(Number)	(Country)	(Day/Month/Year Filed)	[ ] Yes	[ ] No
(Number)	(Country)	(Day/Month/Year Filed)	[ ] Yes	[ ] No
(Number)	(Country)	(Day/Month/Year Filed)	[ ] Yes	[ ] No

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, we acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulation, §1.56(a) and (b) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Status) (patented, pending abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending abandoned)

I hereby appoint Roger A. Gilcrest, Reg. No. 31,954, Jeffrey S. Standley, Reg. No. 34,021 and/or Patricia L. Prior, Reg. No. 33,758, c/o Standley & Gilcrest, 555 Metro Place North, Suite 500, Dublin, Ohio 43017, Telephone No. (614) 792-5555 my attorneys, with full power in each of them, of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith. All correspondence should be sent to the attention of Jeffrey S. Standley at the address above.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issued thereon.

Full name of inventor Anthony M.D.
Dr. Anthony Joseph

Date 3-5-96

Residence Dublin, Ohio

Citizenship United States of America

Post Office Address 5442 Riverside Drive, Dublin, Ohio 43017

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner of Patents and Trademarks, Washington, D.C. 20231 on

March 8, 1996
Date of Deposit
Lori A. Kessen
Typed or printed name of person depositing this mailing
Lori A. Kessen